EVALUATION OF FACILITIES PERFORMANCE ON STUDENTS' SATISFACTION IN NORTHERN NIGERIAN UNIVERSITIES

ISA ABDULLAHI

A thesis submitted in partial
fulfilment of the requirement for the award of the
Degree of Doctor of Philosophy

Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia

SEPTEMBER, 2017

I dedicate this dissertation to my late father and my late mother in law may their soul rest in Jannatul Pirdaus amin. To my family who gave me continuous support in this endeavor. To my wife and my children, Abdulrahman, Juwairiya, Mahmood, Usman and Muh'd Muktar whom I am forever grateful for their love, patience, and sacrifice. This dissertation is also dedicated to my mother and my father in law who has instilled in me the importance of education and the determination to pursue my goals. Finally, this dissertation is dedicated to everyone who helped me and offered a constant support and absolute belief in me.

ACKNOWLEDGEMENT

All thanks be to Almighty Allah, the beneficent the merciful, for giving me the wisdom, strength and health to achieve this fiat. My profound appreciation and gratitude goes to my supervisor, Prof. Sr. Dr. Wan Zahari Bin Wan Yusoff, for his support, motivation and encouragement which cumulatively facilitate the success of this work. I also thank Universiti Tun Hussein Onn Malaysia (UTHM) for offering me a place to undergo this study. I appreciate all UTHM staff that contributed, in one way or the other, to the success of this work.

My sincere gratitude goes to my mother and my father in law for their du'a, love, motivation and encouragement. My acknowledgement will never be completed without appreciating my lovely wife and my children. Their love makes me strong, encouragement boosts my morale and motivation ejected the covert wisdom to accomplish this task. I understand and appreciate their sacrifices that see to the success of this work. I ask Allah in his infinite mercy to reward them abundantly. I also appreciate the support and encouragement given to me by Arc. Isa Abdullahi Adam, Director Academic Planning, Nuhu Bamalli Polytechnic Zaria. I appreciate and thank the support of Dr. Nurudeen Usman Bapeto, Department of Building Technology, ATBU, Bauchi. I am most grateful to his kindness.

I appreciate the support of my colleagues and friends both in Nigeria and Malaysia who are too numerous to mention. The help offered to me by M. M. Ishaq, Nuradeen Sulaiman Aliyu and Hamza Usman is well appreciated. I also appreciate the encouragement of my brothers and sisters. I am grateful to all of them. Finally, I thank the Tertiary Education Trust Fund (TETF) for the sponsorship to the success of this work. I appreciate the management of Nuhu Bamalli Polytechnic, Zaria, for releasing me to further my education.

ABSTRACT

Performance evaluation of academic facilities of HEIs is very critical to educational effectiveness. Presently, there is limited or no research/data in Nigeria to assess how extensively the use of or lack of academic facilities benchmarking practices. The aim of this research was to develop a facilities performance framework for HEIs academic facilities in order to serve as a reference model for policy makers while designing HEIs facilities standard targeted towards improving facilities performance for enhanced student satisfaction. Quantitative research approach using survey design was adopted. Data was collected using closed-ended questionnaires distributed to a sample of 1000 student randomly selected from three universities in the northern Nigeria out of which 735 were considered valid for the analysis. Research questions were answered by testing the proposed research hypothesis which were developed for the research. The descriptive analyses were conducted using the Statistical Package for Social Science Software (SPSS version 23) while the inferential statistics were analyzed using a Partial Least Squares Structural Equation Modelling software (SmartPLS version 3.0). Overall, the result found that facilities performance significantly influenced student satisfaction. The R-square value indicated that performance of the HEIs component facilities explained 63 percent of the variance in students' satisfaction. Furthermore, it was found that 66.7 percent of the performance of HEIs components facilities was explained by the performance of both physical and non-physical facilities that constitutes the HEIs academic facilities. The implication of this results points to the importance of including students' feedback in the facilities management aspect of HEIs. This is for the fact that students'satisfaction was shown to be significantly related to the condition of the university facilities. It is recommended that future research should focus on identifying students satisfaction with academic facilities in the HEIs using experience as a measure of facilities performance to promote the concept of best practices benchmarking for the institutions to esterblished quality facilities in their institutions.

ABSTRAK

Kemudahan akademik membentuk peratusan besar daripada aset institusi pendidikan tinggi. Dengan demikian, tahap prestasi komponen ini penting untuk keberkesanan pendidikan. Pada masa kini, kajian secara intensif tentang bagaimana teknik menilai prestasi yang mengesani pengajaran dan pembelajaran terhad di Nigeria. Tujuan kajian ini adalah untuk menilai bagaimana prestasi fasiliti fizikal dan non fizikal mempengaruhi tahap kepuasan pelajar dengan tujuan untuk membangunkan rangka kerja ke arah memperbaiki keadaan fasiliti universiti untuk meningkatkan tahap kepuasan pelajar. Pendekatan kajian kuantitatif menggunakan instrumen kaji selidik telah digunakan dalam kajian ini. Data dikumpulkan dengan menggunakan soalan kaji selidik berstruktur yang telah diedarkan kepada sampel 1000 pelajar yang dipilih secara rawak daripada tiga (3) universiti di utara Nigeria yang mana 735 di dapati sah untuk dianalisis. Statistik deskriptif dan inferensi telah digunakan untuk menjawab persoalan kajian dan menguji hipotesis yang dirumuskan untuk penyelidikan ini. Analisis deskriptif telah dijalankan menggunakan *Statistical Package for Social Science Software* (SPSS versi 23) manakala statistik inferensi dianalisis menggunakan kuasa dua terkecil *Structural Equation Modeling* perisian separa (SmartPLS versi 3.0). Secara keseluruhannya, Hasil kajian ini mendapati bahawa prestasi fasiliti yang disediakan mempengaruhi tahap kepuasan pelajar secara ketara. Nilai R-square menunjukkan bahawa prestasi komponen fasiliti IPT menjelaskan 63 peratusan daripada varian adalah berada dalam tahap kepuasan pelajar. Manakala 66.7 peratusan daripada prestasi komponen fasiliti IPT telah dijelaskan oleh prestasi kedua-dua fasiliti fizikal dan non fizikal yang merupakan fasiliti akademik di IPT. Implikasi ini menjelaskan bahawa fokus kepada maklum balas pelajar adalah penting dalam aspek pengurusan komponen fasiliti di IPT. Hakikatnya bahawa, pencapaian pelajar mempunyai perkaitan secara signifikan dengan prestasi fasiliti yang disediakan oleh sesebuah universiti.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS AND ABBREVIATION

ABU	Ahmadu Bello University
ATBU	Abubakar Tafawa Balewa University
AVE	Average Variance Extract
BIFM	British International Facility Management
CASBEE	Comprehensive Assessment System for Building Environment Efficiency
CR	Composite Reliability
FM	Facility Management
FME	Federal Ministry of Education
FUT	Federal University of Technology
GBI	Green Building Index
GNP	Growth National Product
HEFCE	Higher Education Funding Council for England
HEFR	Higher Education Participation Rate
HEIs	Higher Education Institutions
IFMA	International Facility Management Association
IQE	Indoor Environmental Quality
ISO	International Standard Organization on Ergonomics of Human System Interaction
LEED	Leadership in Energy and Environmental Design
NABERS	National Australian Built Environment Rating System
NHSE	National Health Service of Estate
NPE	National Policy on Education
NUC	National University Commission
PCF	Performance of Component Facilities
PLS-SEM	Partial Least Square-Structural Equation Modelling

PNE	Performance of Non-physical Facilities
POE	Post-Occupancy Evaluation
PPE	Performance of Physical Facilities
PROBE	Post-Occupancy of Building and Their Engineering
RICS	Royal Institution of Chartered Surveyors
SCF	Satisfaction with Component Facilities
SNE	Satisfaction with Non-physical Facilities
SPE	Satisfaction with Physical Facilities
SPSS	Statistical Package for Social Science
VIF	Variance Inflation Factor
XU	User Experience

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Introduction

Higher education is crutial tool for national development in any giving nation of the world. The contribution of higher education in inculcating advanced skills and capabilities is the foundation and begining of nation building especially in the context of revolving world towards knowledge economies (Akinyemi & Bassey, 2012). The prompt revolution in higher education institutions context motivated by political, economic and socio-cultural factors in eve years of 21th century have raised attention for quality and generated issues to the inherent and self-evident conventional views on guaranteeing quality in higher educational institutions (Delors, 1998; Maassen & Cloete, 2006; Trow, 2007; Deem, Hillyard & Reed, 2007; Duderstadt, 2009; Altbach, Gumport & Berdahl, 2011). Educational infrastructures are the physical properties and facilities that contribute remotely or directly to the teaching and learning process in the educational system. Physical asset and facilities environment give educational institutions their appropriate shape and atmosphere for teaching and learning (Musa & Baharun, 2012).

Increased diversity and hetrogeinity in terms of core teaching provision and physical facilities needed, student types, matching programs to labour market needs, dwindling resources, heightened accountability and indirect navigation of higher education have brought a call for more quality (explicit and systematized) assurance systems than was needed in the conventional universities (Leveille, 2006; Reichert,

2009; Tremblay, Lalancette, & Roseveare, 2012). Several nations across the globe have adapted quality assurance systems with the aim of controlling and improving quality of their higher education systems. Quality assurance in higher education were first introduced in a small number of developed countries such as USA and Western Europe in the 1980s and 1990s, and prolifrate rapidly to the developed and developing countries over the past two decades (Kanji, Malek & Tambi, 1999; Ferlie, Musselin & Andresani, 2008; Sallis, 2014). International organization such as World Bank, UNESCO, OECD, and international networks such as International Network for Quality Assurance Agencies in Higher Education (INQAAHE) and regional organizations as well as professional associations have played important roles in the introduction and advocating quality assurance in higher education institutions across the world (Hou, 2014).

At the institutions of higher education level, the traditional collegial approaches to quality, deeply rooted in the orthodox university values of professionalism, competence and trust, have paved way more structured and unambiguous quality assurance practices since the 1990s (Evans-Bibby, 2004; Findlow, 2008; Sallis, 2014). The main aim of quality assurance in higher education is to attain, stimulate and increase systems' and institutions' efficiency, effectiveness, cost savings, quality and transparency towards stakeholders interest (Hoecht, 2006). Therefore, facilities performance evaluation fast-tracks the acheivement of higher education institutions quality of facilities (Amaratunga & Baldry, 2000). While concern in facilities performance evaluation has increased in recent years, evidence shows that the concept is a far more mainstream activity in the United States of America, some European countries and Australia than it is in Africa (Amaratunga & Baldry, 2000). Little data is available in Africa to assess how extensively the use of the technique has penetrate institutions of higher education, how it affects spaces of teaching facilities and overall institutions of higher education performance (Amaratunga & Baldry, 2000; De Waal, 2007).

1.2 Background to the study

The facilities and physical assets development in institutions of higher education is cost intensive and complex. Therefore to safeguard their quality and maintain it to

acceptable global best practices is very challenging. The facilities and physical assets development in institutions of higher education includes provision of buildings such as lecture hall, classrooms, staff quarters, hostels, workshops, laboratories, ICT centers, libraries, sports facilities and health centers. Quality assurance has now become one of the essential mechanisms of policy instruments and reform for institutions of higher education to adapt in increasing expectations from both external and internal stakeholders all over the world. According to Kahsay (2012), the proliferation of quality assurance and its terms is nowadays general in policy of higher education and discoursion that surpass ones imagination on how recent emphasis on the term quality is about. The greatest challenged on institutions of higher education has metamorphosed into inevitability of proving that they are providing quality education and working enormously to improve it (Anderson, 2006).

In African subregions, quality assurance, although is of great concern, is a recent phenomenon. Concern over the quality in various Sub-Saharan African countries comes as a result of growing appreciation of the potentially influential role of institutions of higher education towards growth and development and its prompt increase since the beginning of 21st centuary (Hanushek & Wößmann, 2007). With recent happenings, several Sub-Saharan African countries have implemented higher education expansion policies, which resulted in a substantial students' enrolment growth (Altbach, Reisberg & Rumbley, 2010) within the current and newly established higher education institutions as well as in variations concerning student socio-cultural and economic characteristics. The need for access to tertiary institutions in many Sub-Saharan countries will rise considerably in recent future as a result of upward changes in demographic and due to substantial access to education at both primary and secondary levels (Altbach, Reisberg & Rumbley, 2010). However, Global Education Digest (2009) reports that the number of students who are looking for higher education has steeply increased over the past 37 years. It grows five-fold from 28.6 million in 1970 to 152.5 million in 2007. This showed an average yearly increase of 4.6 percent. Sub-Saharan Africa has experienced the highest average regional growth rate of student enrolments that have increased by an average of 8.6 percent each year. So far, even with this development, the region still lags behind in terms of total tertiary student enrolments. Currently, the enrolment continue to increase to about 20 times more students than in 1970, with an increase of 3.9 million enrollment (Global Digest, 2009). At present, the major challenge facing many Sub-Saharan African nations is,

on the one hand, of addressing the unmet demand for access through rapid expansion of their higher education and on the other, of improving quality of their education in the context of the prevailing socio-economic, fiscal and political constraints in order to achieve students satisfaction with the institutions.

It is notable that most of the satisfaction studies on higher institution of learning focus on student satisfaction with the universities core functions (Kärnä & Julin, 2015). However, there is vast evidence that physical facilities support teaching and learning in various ways (Uline, Tschannen-moran, & College, 2008; Temple, 2008; Tan & Kek, 2004).Therefore, facilities are among the major factors that determine the achievement of teaching and learning objectives, hence deplorable facilities pose a barrier to the achievement of this set objectives (Price, Matzdorf, Smith & Agahi, 2003). This is verifiable with the report of the Nigerian university commission (NUC 2006), that physical facilities in the universities were in deplorable condition which hinder the performance of staff and students.

Equally, Joseph, Yakhou & Stone (2005) noted that studies on service quality in higher education institutions have concentrated on the input from academic stakeholders only without the input from the students perspective. They believe that traditional approaches leave verdicts on what forms quality of service (e.g. such as determining what is 'most important' to students) solely on administrators or academics. The researchers, consequently, recommend that administrators in HE should pay more attention on appreciating the requirements of their students, who are the specific and primary target spectators. Equally, Douglas, Douglas & Barnes (2006) recommend that the student experience and its enhancement has to be the cardinal principle in supervising HE quality. Roberts (2009) have posited that students perform poorly due to the failure of the institutions to make the environment that is conducive and favourable to their learning and educational needs. The available facilities in most Nigerian Public universities are not sufficient in promoting students learning and performance (Osaikhiuwu, 2014).

Like other Sub-Saharan African countries, concern about quality of higher education in Nigeria is on the rise vis-à-vis the rapid institutional and enrolment expansion (Omogbadegun, 2014). The number of universities has snowballed from 6 prior to 1970 to 129 by 1999/2016, which include federal, state and private universities. The total enrolment capacity of the public universities has grown from 425,000 in 2005/2006 to 520,719 in 2012/2013 (Omogbadegun, 2014). Following this

rapid expansion, the issue of quality has become a point of discussion and major concern among all stakeholders including the government. There is a general concern that the rapid enrolment expansion accompanied by inadequacy of academic facilities; incompatibility of existing capacity and lack of organizational arrangements may result in deterioration of academic standards and quality. Renewal, maintenance and innovation are determinants of the quality of the facilities and physical asset development of the institutions effort that will attract the students, staff and foreign sttudents to the institutions. Aethetics of the environmental and sanitation gives the beautiful impression that guarantees the tranquility and favorable climate for research teaching and learning activities, healthy and secured lives in the school and its communities. Quality assurance of these facilities right from their planning, to development and utilization will ensure effective realization of set goals and objectives in higher education institutions.

Recent evidence suggests that physical facilities in the universities require radical solutions in dealing with the surge in demand by users (Boyden, 2000). Facilities can be a medium of the interaction between students' and university stakeholders and should therefore not only be maintained but need to be managed in line with the need of evolving university's education. However, there is clear evidence from the review of literature conducted, that there is absence of integrating framework for considering the facilities performance vis-à-vis students' satisfaction and experience with respect to Nigerian higher institutions, particularly Nigerian universities. In view of the above background, this study seeks to measure the performance of facilities in relation to students' experience and satisfaction of Northern Nigerian universities.

1.3 Problem statement

The need for this research arises from the findings of the Federal Ministry of Education on needs assessment result in 2012 of Nigerian universities which discovered academic facilities are in deplorable state.

Student satisfaction and experience substance to higher educational institutions and students. Students are considered of paramount importance to universities this is because their experiences and understanding of the institutions must reflect their

REFERENCES

Abbasi, M. N. (2011). A study on student satisfaction in Pakistani Universities: The Case of Bahauddin Zakariya University, Pakistan. *Asian Social Science, 7*(7).

Abdul Ghani, S. (2008). Neighbourhood factors in private low cost housing in Malaysia. *Habitat International, 32*, 485–493.

Abusaid, B. A. (2007). *Assessing service user experience as a component of service excellence: in NHS primary healthcare settings: a case study of Salford PCT (Doctoral dissertation)*. University of Salford.

Adams, D. (1993). *Defining Educational Quality. Improving Educational Quality Project Publication, 1.*

Adeboyeje, R. A. (2000). *Management of School Physical Facilities. Ibadan: Foundation Publications.*

Adedipe, N. O. (2013). Strains and stresses in the nigerian university system : sustainable quality assurance prospects by private By. In *Third Convercation Lecture of the Al-Hikmah University, Ilorin, Nigeria 3* (pp. 1–42).

Adeogun, A. A., Subair, S. T., & Osifila, G. I. (2009). Deregulation of university education in nigeria: problems and prospects. *Florida Journal of Educational Administration & Policy, 3*(1), 1–8.

Afemikhe, O. A. (2008). *Selection into Nigerian universities: Student's Selection into Nigerian universities: Student's assessment of post university matriculation examination. Benin City:University Of Benin,Institute Of Education Benin,Institute Of Education*.

Agboola, B. M., & Ofoegbu, F. I. (2010). Access to university education in Nigeria: In *A review. Benin City, Nigeria: University of Benin. Department of Educational Studies and Management, Faculty of Education.*

Agron, J. (2004). american school & university. *Journal of Applied Psychology, 76*(10).

Ajayi, A. O. (1999). Resources Utilization: The Mandate of Education Managers. Faculty Lecture Series, Faculty of Education University of Ibadan, Ibadan.

Akinsolu, R. A. (2004). Provision and Management of Facilities in Nigerian Primary Schools. In E.O.

Akinyemi, S., & Bassey, O. I. (2012). Planning and funding of higher education in Nigeria: The challenges. *International Education Studies*, *5*(4), 86–95. https://doi.org/10.5539/ies.v5n4p86

Akoka, J. (1999). *Conceptual design of parallel systems. In Conceptual Modeling*. Berlin Heidelberg; Springer.

Al Johani, Y. S. S. (2011). Pioneer School Effectiveness and Improvement in Saudi Arabia: the Case of the Secondary Educational Institutions.

Alexander, K. (1996). *A Strategy for Facilities Management: Theory and Practice*. London: E & FN Spon.

Alexander, K. (2008). The Applicability of Usability Concepts in the Built Environment. *Journal of Facilities Management*, *4*(4), 262–270.

Alexander, K. (Ed. . (2013). *Facilities Management: Theory and Practice*. Routledge.

Ali-Choudhury, R., Bennett, R., & Savani, S. (2009). University marketing directors' views on the components of a university brand. *International Review on Public and Nonprofit Marketing*, *6*(1), 11.

Ali, Norhidayah, Ali Syukriah, M. N. & A. S. S. (2009). The Factors Influencing Students ' Performance at Universiti Teknologi MARA Kedah, Malaysia. *Management Scince and Engineering*, *3*(4), 81–90.

Allee, V. (2008). Value network analysis and value conversion of tangible and intangible assets. *Journal of Interlectual Capital*, *9*(1), 5–24. https://doi.org/10.1108/14691930810845777

Altbach, P. G., Gumport, P. J., & Berdahl, R. O. (Eds. . (2011). *American Higher Education in the Twenty-first Century: Social, Political, and Economic Challenges*. JHU Press.

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). Trends in global higher education: Tracking an academic revolution.

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2010). Tracking a global academic revolution. Change. *The Magazine of Higher Learning*, *42*(2), 30–39.

Alves, H., & Raposo, M. (2007). Conceptual model of student satisfaction in higher education. *Total Quality Management*, *18*(5), 571–588.

Alves, H. & Raposo, M. (2010). The influence of university image on student behaviour. International. *Journal of Educational Management*, *24*(1), 73–85.

Amadi, M. N., Adeyemi J. K., Ogundiran S. O., & Awe, B. (2010). Issues and problems in higher education in Nigeria. In *Paper presented at National Open University of Nigeria, Lagos*.

Amaratunga, D., & Baldry, D. (2003). A conceptual framework to measure facilities management performance. *Property Management*, *21*(2), 171–189. https://doi.org/10.1108/02637470310478909

Amaratunga, D., Baldry, D., & Sarshar, M. (2000). Assessment of facilities management performance – what next? *Facilities*, *18*(1/2), 66–75. https://doi.org/10.1108/02632770010312187

Amaratunga, R., & Baldry, D. (2002). Performance measurement in facilities management organisations: Transition from measurement to management. *facilities management*, *2*(1999), 206–223. Retrieved from http://usir.salford.ac.uk/9903/

Amasuomo, T. T., & Amasuomo, J. O. (2016). Perceived thermal discomfort and stress behaviours affecting students' learning in lecture theatres in the humid tropics. . *Buildings*, *6*(2), 18.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Educational Psychology*, *80*(3), 260.

Aminu, J. (n.d.). Resources for higher education: Number, cost and common sense. In *Guest of honor address at the Proceedings of NUC/CVC/BC International seminar, Zaria.*

Amole, D. (2009). Residential satisfaction in students' housing. *Journal of Environmental Psychology*, *29*(1), 76–85.

Andersin, H., Karjalainen, J., & Laakso, T. (1994). Suoritusten mittaus ohjausva lineena Performance Measurement as a Steering Tool (in Finnish). Helsinki: Metalliteollisuuden Kustannus Oy.

Anderson, G. (2006). Assuring quality/resisting quality assurance: Academics' responses to "quality"in some Australian universities. *Quality in Higher Education*, *12*(2), 161–173.

Anifowose, M. O., & Lawal, P. O. (2013). State of physical facilities in Nigerian tertiary educational institutions: Case study of The Federal University of

Technology, Minna, Niger State Nigeria. *Nigerian Journal of Technological Research*, *8*(1), 56–60.

Ariffin, A. R. M., Mahyuddin, N., Din, N. C., & Nordin, N. (2014). Design and procuring a green office in university campus. In *Proceeding 1st Regional Conference on Campus Sustainability: Building Sustainability edge Through Institutional Strategy* (pp. 266–297).

Arokiasamy, A. R. A. (2012). Service quality and student s' satisfaction at higher learning institutions: a case study of malaysian university competitiveness. *International Journal of Management & Stratergy*, (3), 1–16.

Asiyai, R. I. (2012). Assessing school facilities in public secondary schools in Delta State , Nigeria. *African Research Review*, *6*(25), 192–205.

Asmar, M. El, Chokor, A., & Srour, I. (2014). Are Building Occupants Satisfied with Indoor Environmental Quality of Higher Education Facilities ? *Energy Procedia*, *50*(480), 751–760. https://doi.org/10.1016/j.egypro.2014.06.093

Associates, B. W. (1996). *Facilities Economics, Building Economics Bureau Ltd., Kent*.

Aston, L. (1994). *Appraising contracting options", in Alexander, K. (Ed.),Facilities Management 1994, CFM, University of Strathclyde, Glasgow*.

Atkin, B., & Brooks, A. (2009). *Total facilities management.* John Wiley & Sons Ltd.

Avis, M. (1995). *Property asset management for corporate performance'', in Alexander, K. (Ed.)*. London: Facilities Management 95, Blenheim Business Publications Ltd.

Aydogan, E. K. (2011). Performance measurement model for Turkish aviation firms using the rough-AHP and TOPSIS methods under fuzzy environment. *Expert Systems with Applications*, *38*(4), 3992–3998.

Babalola, J. B., Jaiyeoba, A. O., Okediran, A. (2007). *University autonomy and financial reforms in Nigeria: historical background, issues and recommendations from experience. In J. B.*

Babatope, B. A. (2010). Problems of facilities in South-West Nigerian universities and the way forward. *Journal of Education Administration and Policy Studies*, *2*(2), 39–43.

Babbie, E. (2007). *The Practice of Social Research* (11 th ed). Thomson Wadsworth.

Baird, G. (2015). Users' perceptions of sustainable buildings–Key findings of recent studies. *Renewable Energy*, *73*, 77–83.

Bakare, T. V. (2009). A Consideration of the adequacy of teaching facilities in the universities of the South Western Zone of Nigeria. In *HERPNET-KIU International Conference on Research in African Higher Education for Sustainable Development.* (pp. 1–12).

Barnitt, H. (2003). Lighting for the future, Journal: the. *Building Services Magazine for the CIBSE*, *25*(1), 38–39.

Barret, P. and Baldry, D. (2003). *Facilities Management: Towards Best Practice*. Oxford: Blackwell Science.

Barrett, P., & Barrett, L. (2010). The potential of positive places: senses, brain and spaces. *Intelligent Buildings International*, *2*(3), 218–228.

Barrett, P. (n.d.). Development of a post occupancy building appraisal model. *Facilities Management*, *5*, 116–125.

Bartlett, J. E., Kotrlik, J. W., & Higgins, C. (2001). Organizational Research. Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance*, *19*(1), 43–50.

Bassioni, H. A., Price, A. D., & Hassan, T. M. (2005). Building a conceptual framework for measuring business performance in construction: an empirical evaluation. *Construction Management and Economics*, *23*(5), 495–507.

Baum. S. (2004). Howell, "How communities can use research to hold school system accountable. *The Urban Review*, *36*(1), 37–59.

Beckers, R., van der Voordt, T., & Dewulf, G. (2015). A conceptual framework to identify spatial implications of new ways of learning in higher education. *Facilities*, *33*(1/2).

Beeby, C. E. (1966). *The Quality of Education*. Cambridge: Harvard University Press.

Belcher, R. G. (1997). *Corporate objectives, facilities, measurement and use: a university*.

Bello, T. O. (2011). Public-private partnership, infrastructural development and academic goals achievement of Nigerian Universities. In *A Seminar paper presented at Universities of Ilorin on 25/6/2011*.

Benoliel, S., O'Gara, C., & Miske, S. (1999). Promoting primary education for girls in Pakistan. Arlington, Virginia: USAID's Development Experience Clearing house.

Best, R., Langston, C. A., & De Valence, G. (Eds.). (2003). Workplace Strategies and Facilities Management. *Routledge*.

Bevan, N. (2009). What is the difference between the purpose of usability and user experience evaluation methods. *Proceedings of the Workshop UXEM*, *9*.

Beynon, J. (1997). *Physical Facilities for education: What planners need to know. Fundamental of Education Planning - 57*.

Beyrouthy, C., Burke, E. K., Landa-Silva, D., McCollum, B., McMullan, P., & Parkes, A. J. (2009). Towards improving the utilization of university teaching space. *Journal of the Operational Research Society*, *60*(1), 130–143.

Bin Baba, M. (2002). Termed-quality, value and risk management, the dicision making tool for more efficient facilities management. In *Proceeding, Conference on property and facilities management, Asia Business Forum, Kuala Lumpur*.

Blasco-Arcas, L., Buil, I., Hernández-Ortega, B., & Sese, F. J. (2013). Using clickers in class. The role of interactivity, active collaborative learning and engagement in learning performance. *Computers & Education*, *62*, 102–110.

Bordass, B., & Leaman, A. (n.d.). Making feedback and post-occupancy evaluation routine 3: Case studies of the use of techniques in the feedback portfolio. *Building Research & Information*, *33*(4), 361–375. https://doi.org/10.1080/09613210500162032

Borden, V. M. . (1995). Segmenting student markets with a student satisfaction and priorities survey. *Research in Higher Education*, *36*(1), 73–88.

Boyden, K. M. (2000). Development of new faculty in higher education. *Journal of Professional Nursing*, *16*(2), 104–111.

Bramwell, A., & Wolfe, D. A. (2008). Universities and regional economic development: The entrepreneurial University of Waterloo. *Research Policy*, *37*(8), 1175–1187.

Braunsberger, K., & Gates, R. (2009). Developing inventories for satisfaction and Likert scales in a service environment. *Journal of Services Marketing*, *23*(4), 219–225.

Brayfield, A. H. & Crockett, W. H. (1955). Employee Attitudes and Employee Performance. *Psychological Bulletin*, LII396-424.

Brown, M., & Long, P. (2006). Trends in learning space design. *Learning Spaces*, 9–1.

Brown, Z., Cole, R. J., Robinson, J., & Dowlatabadi, H. (2010). Evaluating user experience in green buildings in relation to workplace culture and context. *Facilities*, *28*(3/4), 225–238. https://doi.org/10.1108/02632771011023168.

Brown, Z. Cole, J. & Doulatabadi, H. (2010). Evaluating user experience in green buildings in relation to workplace culture and context. *Facilities*, *28*(3/4), 225–238.

Bryman, A., & Bell, E. (2007). *Business Research Strategies. Business research methods.*

Buckley, J., Schneider, M., & Shang, Y. (2004). The effects of school facility quality on teacher retention in urban school districts. *National Clearinghouse for Education Facilities*, *5*, 1–10.

Burkett, S.W. & Bowers, J. K. (1987). Relationship of students achievement and characteristics in two selected school facility environment settings. In *International Conference of the Council of Educational Facility Planners. Edmonton, Alberta, Canada. October*.

Burns, J. J. & S. (2013). Institutional factors and the postgraduate student experience. *Quality Assurance in Education*, *21*(3), 311–322. https://doi.org/10.1108/QAE-Nov-2011-0069

Busacca, B. & Padula, G. (n.d.). Understanding the relationship between attribute performance and overall satisfaction: Theory, measurement and implications. *Marketing Intelligence & Planning, 23(6), ., 23*(6), 543–561.

Byrne, B. M. (2010). *Structural Equation Modeling with AMOS; Basic Concepts, Application and Programming* (2nd ed.). Routledge, New York: Taylor and Francis Group.

C, A. S. (2004). *Institutional management in higher education: a study of leadership approaches to quality improvement in university management: Nigerian and Finnish cases. Unpublished Ph.D. thesis*. University of Helsinki.

Cable, J.H. and Davis, J. S. (2004). *Key Performance Indicators for Federal Facilities Portfolios, Federal Facilities Council Technical Report 147, National Academies Press, Washington, DC.*

Cadotte, E. R., Woodruff, R. B., & Jenkins, R. L. (1987). Expectations and norms in models of consumer satisfaction. *Journal of Marketing Research*, 305–314.

Callaway, A. & Musone, A. (1965). Financing of education in Nigeria. *IIEP Africa Research Monograph 15*.

Cameron, K. & Whetten, D. (1983). *Organizational Effectiveness: One Model or Several? Organizational Effectiveness – A Comparison of Multiple Models. CA*. CA: Academic Press.

Cameron, R., Manske, S., Brown, K. S., Jolin, M. A., Murnaghan, D., & Lovato, C. (2007). Integrating public health policy, practice, evaluation, surveillance, and research: the school health action planning and evaluation system. *American Journal of Public Health*, *97*(4), 648–654.

Carpenter, C. and Oloufa, A. (1995). Post-occupancy evaluation of buildings and development of facility performance criteria. *Architectural Engineering*, *1*(2), 77–81.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*(4), 39–48.

Cash, C. (1993). *A Study of the Relationship between School Building Condition and Student Achievement and Behavior." Unpublished doctoral dissertation,*. Virginia Polytechnic Institute and State University.

Chen, D. C., Kirshenbaum, D. S., Yan, J., Kirshenbaum, E., & Aseltine, R. H. (2012). Characterizing changes in student empathy throughout medical school. *Medical Teacher*, *34*(4), 305–311.

Chen, W., & Hirschheim, R. (2004). A paradigmatic and methodological examination of information systems research from 1991 to 2001. *Information Systems Journal*, *14*(3), 197–235.

Chiedozie, I. (2010). *Jonathan Receives Interim Report on Jos Crises*. Retrieved from www.punchng.com/Articl.aspx?

Chin, W. W. (1998). *The Partial Least Squares Approach to Structural Equation Modeling. In Modern Methods for Business Research*. *Laurence Erlbaum Associates.* New Jersey.

Chin, W. W. (2010). *How to Write-up and Peport PLS Analyses. Handbook of Partial Least Squares*. (J. H. & H. W. V. Esposito Vinzi, W. W. Chin, Ed.). Berlin: Springer Heidelberg.

Choi, S., Guerin, D. A., Kim, H., Brigham, J. K., & Bauer, T. (2013). Indoor Environmental Quality of Classrooms and Student Outcomes : A Path Analysis Approach. *Journal of Learning Spaces*, *2*(2).

Chotipanich, S., & Lertariyanun, V. (2011). A study of facility management strategy: the case of commercial banks in Thailand. *Journal of Facilities Management*, *9*(4), 282–299.

Chotipanich, S. (2004). Positioning facility management. *Facilities*, *22*, 364–372.

https://doi.org/10.1108/02632770410563086

Chukwarah, C. C. (2011). Access to higher education in Nigeria: The University of Calabar at a glance. *Canadian Social Science*, *7*(3).

Churchill Jr, G. A., & Surprenant, C. (1982). An investigation into the determinants of customer satisfaction.. *Journal of Marketing Research*, 491–504.

Cilliers, P. (1998). *Complexity and Postmodernism: Understanding Complex Systems*. London: Routledge.

Clarke, G. (1997). Reassessing resource allocation strategies in higher education: methods for analysis. *International Journal of Educational Management*, *11*(6).

Clement, I., Giwa, R., Owo, P., Giwa, R., Owo, P., Giwa, R., … Owo, P. (2013). Post occupancy evaluation of privatized students ' hostel case study of federal university of technology , Akure. *International Journal of Computer Science and Information Technology & Security*, *3*(3), 237–246.

Cleveland, B., & Fisher, K. (2014). The evaluation of physical learning environments : a critical review of the literature, 1–28. https://doi.org/10.1007/s10984-013-9149-3

Cohen, L., Manion, L., & Morrison, K. (2013). Research methods in education. Routledge.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. (N. Hillsdale, Ed.) (2nd ed.). Lawrence Erlbaum Associates.

Collis, J., and Hussey, R. (2009). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students.* Basingstoke: Palgrave Macmillan.

Commission., N. U. (2002). Academic staffing profiles, student enrollment, dropout and graduation rates at Nigerian universities during 1995/96 to 1999/2000 academic years. Abuja, Nigeria: National Universities Commission, Department of Academic Planning.

Commission, N. U. Ban on Admission into more Programmes with Denied Accreditation, Monday Memo, May 4 (18). (2006).

Cooper, P. (2007). Knowing your "lemons": quality uncertainty in UK higher education. *Quality in Higher Education*, *13*(1), 19–29.

Coskun, L. (2014). Investigating the essential factors on student satisfaction : A Case of Albanian Private University. *Journal of Educational and Social Esearch*, *4*(1), 489–503. https://doi.org/10.5901/jesr.2014.v4n1p489

Cox, K., Imrie, B. W., & Miller, A. (2014). *Student Assessment in Higher Education:*

A Handbook for Assessing Performance. Routledge.

Cozens, P., Hillier, D., & Prescott, G. (2001). Crime and the design of residential property–exploring the perceptions of planning professionals, burglars and other users: Part 2,. *Property Management*, *19*(4), 222 – 248.

Creek, J. (2010). *The core concepts of occupational therapy: A dynamic framework for practice*. Jessica Kingsley Publishers.

Daniel, J., Kanwar, A. and U.-T. (2006). A tectonic shift in global higher education, change: *The Magazine of Higher Learning*, *38*(4), 16–23.

Das, J., Dercon, S., Habyarimana, J., Krishnan, P., Muralidharan, K., & Sundararaman, V. (2011). *School inputs, household substitution, and test scores (No. w16830). National Bureau of Economic Research.*

Dawis, R. V., England, G. E. & Lofquist, L. H. (1968). *A Theory of Work Adjustment: A Revision. Minneapolis: University of Minnesota, Industrial Relations Center.*

De Waal, A. A. (2007). Is performance management applicable in developing countries? The case of a Tanzanian college. *International Journal of Emerging Markets*, *2*(1), 69–83.

Deem, R., Hillyard, S., & Reed, M. (2007). *Knowledge, higher education, and the new managerialism: The changing management of UK universities*. Oxford University Press.

del Puerto, C. L. (2009). *Relationship between the physical characteristics of higher educational facilities and student attitudes about their graduate school programs*. Saint Louis University.

Delors, J. (1998). Learning: The treasure within. Unesco.

Den Heijer, A. C. (2011). Managing the University Campus: Information to support real estate decisions. *Eburon Uitgeverij BV*.

Denscombe, M. (2014). *The good research guide: for small-scale social research projects*. UK: McGraw-Hill Education.

DeVellis, R. F. (2003). *Scale Development: Theory and Applications*. California: SAGE Publications Ltd.

Diamantopoulos, A & Winklhofer, H. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development. *Marketing Research, Vol. 38, No. 2, Pp.*, *38*(2), 269–277.

Díaz-Méndez, M., & Gummesson, E. (2012). Value co-creation and university teaching quality: Consequences for the European Higher Education Area

(EHEA). *Journal of Service Management*, *23*(4), 571–592.

Dickoff, J., James, P. & Wiedenbach, E. (1968). Theory in a practice discipline: Part 1. Practice oriented theory. *Nursing Research*, *17*(5), 415–435.

Digest, E. G. (2009). *Comparing Education Statistics Across the World*. UNESCO Institute for Statistics. Retrieved from www.uis.unesco.org/publications/GED2009

Dilanthi, A., & David, B. (2000). Assessment of facilities management performance in higher education properties. *Facilities*, *18*(7), 293–301. https://doi.org/10.1108/02632770010340681

Divaris, K., Barlow, P. J., Chendea, S. A., Cheong, W. S., Dounis, A., Dragan, I. F., ... & Mo'nes, M. (2008). The academic environment: the students' perspective. *European Journal of Dental Education*, *12*(s1), 120–130.

Dominici, G., & Palumbo, F. (2013). How to build an e-learning product: Factors for student/customer satisfaction. *Business Horizons*, *56*(1), 87–96.

Doug, A., Burton, N., Cuthill, I., Festing, M., Hutton, J., & Playle, L. (2006). Why do a pilot study? Retrieved from www.je-lks.org/index.php/full-volumes/english-version-2005?task

Douglas, C. H., & Douglas, M. R. (2004). Patient-friendly hospital environments: exploring the patients' perspective. *Health Expectations*, *7*(1), 61–73.

Douglas, J. (1996). Building performance and its relevance to facilities management. *Facilities*, *14*(3), 23 – 32.

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education*, *14*(3), 251–267. https://doi.org/10.1108/09684880610678568

Drucker, P. F. (1985). *Innovation and Entrepreneurship*. London: Heinemann.

Duane, D., & Lowe, D. D. (1996). school facilites equity in california.

Duderstadt, J. J. (2009). *A University for the 21st Century*. University of Michigan Press.

Duque, L. C., & Lado, N. (2010). Cross-cultural comparisons of consumer satisfaction ratings: A perspective from Albert Hirschman's theory. *International Marketing Review*, *27*(6), 676–693.

Duyar, I. (2010). Relationship between school facility conditions and the delivery of instruction: Evidence from a national survey of school principals. *Journal of Facilities Management*, *8*, 8–25. https://doi.org/10.1108/14725961011019058

Earthman, G. I., & Lemasters, L. (1998). Where children learn: A discussion of how a facility affects learning. In *Paper presented at the annual meeting of the Virginia Educational Facility Planners, Blacksburg, VA, February (ERIC document reproduction service no. ED419368)*.

Earthman, G. I., & Lemasters, L. K. (2011). The influence of school building conditions on students and teachers: A theory based research program (1993-2011). *ACEF Journal*, *1*(1), 15–36.

Earthman, G. I. Review of research on the relationship between school buildings , student achievement , and student behavior Virginia Polytechnic Institute & State University Linda Lemasters (1996).

Earthman, G. I., Lemasters, L. K., Earthman, G. I., & Tech, V. (2009). Teacher attitudes about classroom conditions. https://doi.org/10.1108/09578230910955764

Earthman, G. I., Salmon, R. G., & Twiford, T. W. (2002). a Study of the Relationship Between School Building, (May).

Economic Section. (2012). *Nigeria Fact Sheet United States Embassy in Nigeria*. Abuja. Retrieved from http://nigeria.usembassy.gov

Edegbo, W. O. (2010). Budget preparation, approval, and implementation in university libraries in Nigeria. *Library Philosophy and Practice*.

Efemini, A. O. (2014). The funding of public universities in Nigeria. In *A Paper Delivered at Conference of Committee of Pro-Chancellors of Nigerian Federal Universities* (pp. 1–44).

Ekpenyong, C. E., Daniel, N. E., & Aribo, E. O. (2013). Associations between academic stressors, reaction to stress, coping strategies and musculoskeletal disorders among college students. *Ethiopian Journal of Health Sciences*, *23*(2), 98–112.

Ekundayo, H. T. (2012). School facilities as correlates of students'achievement in the affective and psychomotor domains of learning. *European Scientific Journal*, 208.

Ekundayo, H. T., & Ajayi, I. A. (2009). Towards effective management of university education in Nigeria. *International NGO Journal*, *4*(8), 342–347.

Elliot, K. M., and Healy, M. A. (2001). "Key factors influencing student satisfaction related to recruitment and retention." *Journal of Marketing for Higher Education, 10*(4), 1–11.

Elliott, K. M., & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, *24*(2), 197–209.

Elmualim, C. L. & A. (2010). Innovation in facilities management : from trajectories to ownership. *Facilities*, *28*(9/10), 405–415. https://doi.org/10.1108/02632771011057161

Emetarom, U. C. (2004). *Provision and Management of Facilities in Primary Schools in Nigeria: Implication for Policy Formulation. In Management of Primary and Secondary Education in Nigeria.* (I. (Eds). E.O. Fagbemiye,; J.B. Babalola,; M. Fabunmi and Ayeni, Ed.). NAEAP Publication.

Eom, S. B., Wen, H. J., & Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. *Decision Sciences Journal of Innovative Education*, *4*(2), 215–235.

Erevelles, S. & C. L. (1992). A Comparison of Current Models of Consumer Satisfaction/Dissatisfaction. *Journal of Consumer Satisfaction. Dissatisfaction, and Complaining Behavior*, *5*, 104–14.

Erstad, O. (2012). The learning lives of digital youth—beyond the formal and informal. *Oxford Review of Education*, *38*(1), 25–43.

Evans-Bibby, D. (2004). *The assurance of quality and standards in English higher education from 1992 to the present: an economic interpretation (Doctoral dissertation)*. University of London.

Fabiyi, A., & Uzoka, N. (2008). State of Physical Facilities in Nigerian Universities : Implication for Repositioning Tertiary Institutions for Global Competition. *Towards Quality in African Higher Education*, *32*, 180–187.

Fadipe, J. O. (1999). *Education for national development: The millennium option in Educational planning and administration in Nigeria in the 21st century*. (J. O. F. & E. E. O. (Eds.), Ed.). Ondo: NIEPA.

Farahmandian, S., Minavand, H., & Afshardost, M. (2013). Perceived service quality and student satisfaction in higher education. *IOSR Journal of Business and Management (IOSR-JBM)*, *12*(4), 65–74.

Fard, S.A., Zagrwus, L., Lehrer, D. and Huizenga, C. (2006). Occupant satisfaction with indoor environmental quality in green buildings. In *Proceedings of Healthy Buildings 2006, Lisbon, Portugal* (Vol. III, pp. 365–370).

Federal Ministry of Education. (2014). *Education Sector Status Report.*

Abuja.Published with support from Educational Trust Fund Project 532/NIR.

Ferlie, E., Musselin, C., & Andresani, G. (2008). The steering of higher education systems: A public management perspective. *Higher Education, 56*(3), 325.

Findlow, S. (2008). Accountability and innovation in higher education: a disabling tension? *Studies in Higher Education, 33*(3), 313–329.

Finn, A., Ratcliffe, J., & Sirr, L. (2007). University futures: The direction, shape and provision of higher education in the university of the future.

Fisher, K., & Coutts, J. (2001). Schooling Issues Digest Building Better Outcomes : The Impact of School Infrastructure on Student Outcomes and Behaviour. *Schooling Issue Digest, 4*.

Fisk, W. J. (2000). Health and productivity gains from better indoor environments and their relationship with building energy efficiency. *Annual Review of Energy and the Environment, 25*(1), 537–566.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*, 39–50.

Fornell, C & Bookstein, F. (1982). Two Structural Equation Models: Lisrel and Pls Applied to Consumer Exit-Voice Theory. *Marketing Research, 19*(4), 440–452.

Fowler, K.M., Solana, A.E. and Spees, K. (2005). *Building Cost and Performance Metrics: Data Collection Protocol, Pacific Northwest National Laboratory, Rich land, WA.*

Fowler, F. J. (2009). *Survey research methods.* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Frege, G. (1997). *On Concept and Object, trans. The Frege Reader*. (in M. B. (ed. . P. Geach, Ed.). Oxford: Blackwell Publishers.

Frey, Lawrence R., Carl H. Botan, and G. L. K. (2000). *Investigating Communication: An Introduction to Research Methods* (2nd ed.). Boston: Allyn and Bacon.

Gann, D., Salter, A., & Whyte, J. (2003). Design quality indicator as a tool for thinking. *Building Research & Information, 31*(5), 318–333.

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education, 7*(2), 95–105.

Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika, 16*, 101–107.

Goertz, G. (2006). *Social science concepts: a user's guide*. Princeton University Press.

Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). *Evaluation of structural equation models using the partial least squares (PLS) approach. In Handbook of partial least squares*. Springer Berlin Heidelberg.

Green, A. & Ryan, J. C. H. (2005). A framework of intangible valuation areas (FIVA): Aligning business strategy and intangible assets. *Journal of Intellectual Capital*, *6*(1), 43–52.

Group, H. M. (2003). *Windows and classrooms: a study of student performance and the indoor environment*. Califonia Energy Commission.

Gruber, T., Fuß, S., Voss, R., Gruber, T., & Fuß, S. (2010). Examining student satisfaction with higher education services Using a new measurement tool. https://doi.org/10.1108/09513551011022474

Gunasekaran, A., Patel, C., & Tirtiroglu, E. (2001). Performance measures and metrics in a supply chain environment. *International Journal of Operations & Production Management*, *21*(1/2), 71–87.

Gursel, I., Stouffs, R. and Sariyildiz, S. (2007). A computational framework for integration of performance information during the building lifecycle. In *paper presented at the 24th W78 Conference, Maribor, 26-29 June*.

Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2006). *Research method for business*. West Sussex, England: John Wiley & Sons Ltd.

Hair, J. F. J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*. (E. V. Knight, K. Koscielak, & B. Laura, Ed.) (2nd, 2014t ed.). United States of America: SAGE Publications Ltd.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM : Indeed a Silver Bullet. *Journal of Marketing Theory and Marketing*, *19*(2), 139–151. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The Use of Partial Least Squares Structural Equation Modeling in Strategic Management Research : A Review of Past Practices and Recommendations for Future Applications. *Long Range Planning*, *45*(5–6), 320–340. https://doi.org/10.1016/j.lrp.2012.09.008

Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. (2017). Industrial Management & Data Systems.

Hair Jr., J. . ., Black, W. ., Babin, B. ., & Anderson, R. . (2010). *Multivariate Data*

Analysis. 7th Edition (7th ed.). Pearson prentice Hall.

Hamel, G., and C. K. P. (1989). *Strategic Intent. Harvard Business Review, May-June, 63-71*.

Hamilton, B. (2004). Recent Trend in Facilities Management. In *Paper presented at the International Construction Conference 2004*.

Hannu Rantanee Harri I., K. A. L. & P. K. (2007). Performance measurement systems in the Finnish public sector. *International Journal of Public Sector Management*, *20*(5), 415–433. https://doi.org/10.1108/09513550710772521

Hanssen, T.-E. S. & G. S. (2015). The importance of university facilities for student satisfaction at a Norwegian University. *Facilities*, *33*(13/14), 744–759.

Hanssen, T. S., & Solvoll, G. (n.d.). The importance of university facilities for student satisfaction at a Norwegian university, 1–29.

Hanushek, E. A., & Wößmann, L. (2007). The role of education quality for economic growth.

Hao, J. L., Kong, H., & Tam, V. W. Y. (2007). The Construction Waste Disposal Charging Scheme in Hong Kong. *Fourth International Conference on Construction in the 21st Century (CITC-IV) "Accelerating Innovation in Engineering, Management and Technology," Gold Coast*.

Harrison, A. W., & Rainer, R. K. (1996). A general measure of user computing satisfaction. *Computers in Human Behavior*, *12*(1), 79–92.

Hartman, D. E., & Schmidt, S. L. (1995). Understanding student/alumni satisfaction from a consumer's perspective: the effects of institutional performance and program outcomes. *Research in Higher Education*, *36*(2), 197–217.

Harvey, L. (1995). Student satisfaction. *The New Review of Academic Librarianship*, *1*, 161–173.

Hasan, H. F. A., Ilias, A., Rahman, R. A., & Razak, M. Z. A. (2009). Service quality and student satisfaction: A case study at private higher education institutions. *International Business Research*, *1*(3), 163.

Hasbullah, A., Yusoff, W. Z. W., Ismail, M., & Vitasari, P. (2011). A framework study of school facilities performance in public primary school of Batubara district in Indonesia. In *Procedia - Social and Behavioral Sciences* (Vol. 15, pp. 3708–3712). https://doi.org/10.1016/j.sbspro.2011.04.360

Haselgroves, S. (1995). Student Experience. *Higher Education*, *30*(1), 127–128.

Hashim, A. E., Samikon, S. A., Nasir, N. M., & Ismail, N. (2012). Assessing Factors

Influencing Performance of Malaysian Low-Cost Public Housing in Sustainable Environment. *Procedia - Social and Behavioral Sciences*, *50*, 920–927.

Hassan, N., Malik, S. A., & Khan, M. M. (2013). Measuring Relationship Between Students ' Satisfaction and Motivation in Secondary Schools of Pakistan. *Asian Journal of Management Research*, *18*(9), 1231–1239. https://doi.org/10.5829/idosi.mejsr.2013.18.9.11928

Hassanain, M. A., & Iftikhar, A. (2015). Framework model for post-occupancy evaluation of school facilities. *Journal of Facilities Management*, *33*(4/5), 322–336.

Hassanain, M. A., Mohammed, M. A., & Cetin, M. (2012). A multi-phase systematic framework for performance appraisal of architectural design studio facilities. *Facilities*, *30*(7/8), 324–342.

Hassanain, M. a. (2008). On the performance evaluation of sustainable student housing facilities. *Journal of Facilities Management*, *6*, 212–225. https://doi.org/10.1108/14725960810885989

Hassenzahl, M., & Tractinsky, N. (2006). User experience-a research agenda. *Behaviour & Information Technology*, *25*(2), 91–97.

Hassenzahl, M. (2008). User experience (UX): towards an experiential perspective on product quality. In *Proceedings of the 20th International Conference of the Association Francophone d'Interaction Homme-Machine ACM.* (pp. 11–15).

Hawkins, W. & Lilley, H. (1992). *CEFPI's guide for school facility appraisal*. Columbus, Ohio: The Council of Educational Facility Planners International.

Heath, M. and. (2004). Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature. *Indoor Air*, *15*, 27.

Hebb, D. (n.d.). *Organization of Behavior*. New York: Wiley.

Heijer, D. (2012). Managing the university campus : Exploring models for the future and supporting today ' s decisions. *Centre for Effective Learning Environments*, *2*, 1–7.

Hendriks, R. (2013). Perceptions of Facility Management in Europe: A survey of Finland, Germany and the UK.

Henry, S. (2001). School Building Assessment Methods, National Clearinghouse for Educational Facilities, Washington, DC.

Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares

path modeling. *Computational Statistics*, *28*(2), 565–580.

Henseler, J., Ringle, C. M., &Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modelling in International Marketing. *Advances inInternational Marketing*, *20*, 277–319.

Herzberg, F., Mausner, B. & Snyderman, B. (1959). *The Motivation to Work*. New York: Wiley.

Higgins, S., Hall, E., McCaughey, C, Wall, K., & Woolner, P. (2005). The impacts of school environments: A literature review. *London Design Council.*

Higher, U. K., Space, E., & Project, M. (2006). Space utilisation : practice , (September).

Hill, F. M. (1995). Managing service quality in higher education: the role of the student as primary consumer. *Quality Assurance in Education*, *3*(3), 10–21.

Hines, E. W., & Cash, C. S. (1996). *Building Condition and Student Achievement and Behavior*.

Hinum, M. (1999). Strategies for Managing Educational Facilities. Track III of the UEF/P[EB/CAE International Symposium USA.

Hjørland, B. (2009). Concept theory. *Journal of the Association for Information Science and Technology*, *60*(8), 1519–1536.

Hoecht, A. (2006). Quality assurance in UK higher education: Issues of trust, control, professional autonomy and accountability. *Higher Education*, *51*(4), 541–563.

Holt, C. R., & Smith, R. M. (2002). The relationship between school climate and student success. *Arkansas Educational Research & Policy Studies, 2*(2), 52–64.

Hom, W. (n.d.). An Overview of Customer Satisfaction Models.

Hon, W. (2002). Applying customer satisfaction theory to community college planning of student services. *Insight in Student Services*, *2A*. Retrieved from www.ijournal.us_02/ij_issue02_WilliardHom_01.htm

Hou, A. Y. C. (2014). Quality in cross-border higher education and challenges for the internationalization of national quality assurance agencies in the Asia-Pacific region: the Taiwanese experience. *Studies in Higher Education*, *39*(1), 135–152.

Howard, J. A., & Sheth, J. N. (1969). *The theory of buyer behavior* (Vol. 14). New York: Wiley.

Hronec, S. M. (1993). *Vital Signs, Using Quality, Time and Cost Performance Measurement to Chart you Company's Future*. New York: Amacom.

Hunt, H. K. (1977). *"CS/D–overview and future directions," in Conceptualization and*

Measurement of Consumer Satisfaction and Dissatisfaction. (H. K. H. (Ed.), Ed.). Cambridge, MA: Marketing Science Institute.

Huntington, S. P. (2006). *Political Order in Changing Societies*. Yale University Press.

Ibem, E. O., Opoko, A. P., Adeboye, A. B., & Amole, D. (2013). Performance evaluation of residential buildings in public housing estates in Ogun State, Nigeria: Users' satisfaction perspective,. *Frontiers of Architectural Research*, *2*(2), 178–190.

Ibiyemi, A., Adnan, Y. M., Daud, M. N., & Adenipekun, M. (2014). An examination of the structure of sustainable facilities planning scale for user satisfaction in Nigerian universities. *Construction Economics and Building*, *14*(3), 58–73.

Ibrahim, I., Yusoff, W. Z. W., & Sidi, N. S. S. (2011). Space charging model: Cost analysis on classrooms in higher education institutions. *Procedia - Social and Behavioral Sciences*, *28*, 246–252. https://doi.org/10.1016/j.sbspro.2011.11.048

Ibukun, W. O. (1997). *Educational management: theory and practice*. Ado- Ekiti: Green Line Publishers.

IES- Institute of Educational Sciences. (2006). *Post-Secondary Education Facilities Inventory and classification manual* (6th ed.). Washington: National Centre for Education Statistics.

IFMA. (2001). Facts about the International Facility Management Association. Retrieved from www.ifma.org

Ike V. C. (1976). *University Development in Africa, the Nigerian Experience*. Ibadan: Oxford University Press.

Ikoya, P. O. (2008). Centralization and decentralization of schools' physical facilities management in Nigeria. *Journal of Educational Administration*, *46*, 630–649. https://doi.org/10.1108/09578230810895537

Insch, A., & Sun, B. (2013). University students' needs and satisfaction with their host city. *Journal of Place Management and Development*, *6*(3), 178–191.

Isaiah, M. N. (2013). Linking the School Facilities Conditions to Teachers ' Level of Job Dissatisfaction in the South Central Region of Botswana. *International Review of Social Sciences and Humanities*, *4*(2), 196–205.

Ishiyaku, B., Kasim, R., & Isa Harir, A. (2017). Confirmatory factoral validity of public housing satisfaction constructs. *Cogent Business & Management*, 1359458.

Islam, M. A., Jalali, A. R., & Ariffin, K. H. K. (2011). Service satisfaction: The case of a higher learning institution in Malaysia. *International Education Studies*, *4*(1), 182.

Ismail, T. H. (2007). Performance evaluation measures in the private sector: Egyptian practice. *Managerial Auditing Journal*, *22*(5), 503–513.

Issa, M. H., Rankin, J. H., Attalla, M., & Christian, A. J. (2011). Absenteeism , Performance and Occupant Satisfaction with the Indoor Environment of Green Toronto Schools. *Indoor and Built Environment*, *20*(5), 511–523. https://doi.org/10.1177/1420326X11409114

Issah, E., Abubakari, A. R., & Wuptiga, I. J. (2016). State of academic facilities and its influence on teachers' job stress in Tamale polytechnic. *African Journal of Business Management*, *10*(2), 24.

Jago, E., & Tanner, K. (1999). Influence of the school facility on student achievement.

Jansen, S. J. T. (2014). The impact of the have e want discrepancy on residential satisfaction. *Journal of Environmental Psychology*, *40*, 26–38.

Jarvis, P. (2000). The changing university: meeting a need and needing to change. *Higher Education Quarterly*, *54*(1), 43–67.

Jenkins-Guarnieri, M. A., Vaughan, A. L., & Wright, S. L. (2015). Development of a Self-Determination Measure for College Students: Validity Evidence for the Basic Needs Satisfaction at College Scale. *Measurement and Evaluation in Counseling and Development*, *48*(4), 266–284.

Jensen, E. (2008). *Brain-based learning: The new paradigm of teaching*. Corwin Press.

Jensen, H. P. (2000). Strategic planning for the education process in the next century. *Global J. of Engng Educ*, *4*(1), 35–42.

Jensen, P. A., Sarasoja, A., & Voordt, T. Van Der. (2013). How Can Facilities Management Add Value To Organisations As Well As To Society ? *Conference Paper. Brisbane, Australia: CIB World Building Congress*, (May), 5–9.

Jerome, D. C. (2012). School Facility Design: Are We Asking the Right People?.

Johns, R. (2010). SQB Methods Fact Sheet 1: Likert Items and Scales, *1*(March), 1–11.

Jonassen, D. H. (2004). *Learning to solve problems: An instructional design guide* (6th ed.). John Wiley & Sons.

Joseph, M., Yakhou, M., & Stone, G. (2005). An educational institution's quest for

service quality: customers' perspective. *Quality Assurance in Education*, *13*(1), 66–82.

Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*, *27*(2), 119–132.

Kahsay, M. (2012). Quality and Quality Assurance in Ethiopian Higher Education. Critical Issues and Practical Implications. Universiteit Twente/CHEPS.

Kanji, G. K., Malek, A., & Tambi, B. A. (1999). Total quality management in UK higher education institutions. *Total Quality Management*, *10*(1), 129–153.

Kano, N., Seraku, N., Takahashi, F., & Tsuji, S. (1984). Attractive quality and must-be quality. *Journal of the Japanese Society for Quality Control*, *14*(2), 147–156.

Kanyip, B. P. (2013). *Admission Crisis In Nigerian Universities : The Challenges Youth And Parents Face In Seeking Admission*. Seton Hall University. Retrieved from http://scholarship.shu.edu/dissertations

Karemera, D. (2003). The effects of academic environment and background characteristics on students' satisfaction and performance. The case of South Carolina State University's school of Business. *College Student Journal*, *37*(2), 298–11.

Kärnä, S., & Julin, P. (2015). Quality Assurance in Education Article information :

Kasim, R., Ishiyaku, B., Harir, A. I. & Usman, H. (2013). Performance evaluation of tangible and intangible environmental factors for sustainable public housing development in developing countries. In *Proceedings of international conference:"Sustainable Development Conference 2013". Serbia: Tomorrow People Organization* (pp. 185–196).

Katzenbach, J. R., & Smith, D. K. (2015). *The wisdom of teams: Creating the high-performance organization*. Harvard Business Review Press.

Keaveney, S. M., & Young, C. E. (1997). The student satisfaction and retention model (SSRM). University of Colorado, Denver, CO, working paper.

Keller, K. L., Parameswaran, M. G., & Jacob, I. (2011). *Strategic brand management: Building, measuring, and managing brand equity*. Pearson Education India.

Keller, M. B., Lavori, P. W., Friedman, B., Nielsen, E., Endicott, J., McDonald-Scott, P., & Andreasen, N. C. (1987). The Longitudinal Interval Follow-up Evaluation: a comprehensive method for assessing outcome in prospective longitudinal studies. *Archives of General Psychiatry*, *44*(6), 540–548.

Kerschkam, & F.O. (1991). School facilities management'. *Facilities*, *19*(1/2), 14–19.

Keyvanfar, A., Shafaghat, A., Majid, M. Z. A., Lamit, H. B., Hussin, M. W., Ali, K. N. B., & Saad, A. D. (2014). User satisfaction adaptive behaviors for assessing energy efficient building indoor cooling and lighting environment. *Renewable and Sustainable Energy Reviews*, *39*, 277–295.

Khalil, N., Husin, H. N., Nawawi, A. H., Vjcv, D., Vq, C., Vjg, K., & Ngctpkpi, U. (2012). Evaluation and Concept of Building Performance Towards Sustainability in Malaysia Higher Institutions. *Asian Journal of Environment-Behaviour Studies*, *3*(8), 27–40.

Khan, M. M., Ahmed, I., & Nawaz, M. M. (2011). Student's perspective of service quality in higher learning institutions; an evidence based approach. *International Journal of Business and Social Science*, *2*(11).

Kim, M. J., Oh, M. W. & Kim, J. T. (2013). A method for evaluating the performance of green buildings with a focus on user experience. *Energy and Buildings*, *66*, 203–210.

Kim, K. (2015). Sources, Effects, and Control of Noise in Indoor/Outdoor Living Environments. *Ergonomics Society of Korea*, *34*(3), 265.

Kincaid, D. (1996). An overview of facilities management development. In *RICS Conference: Switching to Facilities Management , London, 16 May*.

Kincaid, D. G. (1994). Measuring performance in facility management. *Facilities*, *12*(6), 24–7.

Kok, H. B., Mobach, M. P., & Omta, O. S. W. F. (2011). The added value of facility management in the educational environment. *Journal of Facilities Management*, *9*, 249–265. https://doi.org/10.1108/14725961111170662

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. . *Academy of Management Learning & Education*, *4*(2), 193–212.

Korb, R. (1992). *Postsecondary Education Facilities Inventory and Classification Manual. US Government Printing Office, Superintendent of Documents, Mail Stop: SSOP*,.. Washington, DC 20402-9328.

Kothari, C. R. (2004). *Research Methodology: Methods & Techniques*. *New Age International (P) Ltd*.

Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Pyschological Measurement*, *38*, 607–610.

Kripke, S. (1982). *Wittgenstein on Rules and Private Language*. (MA, Ed.).

Cambridge: Harvard University Press.

Kwong, Q. J., Adam, N. M., & Sahari, B. B. (2014). Thermal comfort assessment and potential for energy efficiency enhancement in modern tropical buildings. *A Review*. *Energy and Buildings*, *68*, 547–557.

Lackney, J. A. (1999). *Assessing School Facilities for Learning/Assessing the Impact of the Physical Environment on the Educational Process*. Mississippi State: Educational Design Institute.

Lavy, S., & Garcia, J. A. (2014). KPIs for facility ' s performance assessment , Part II : identification of variables and deriving expressions for core indicators. *Facilities*, *32*(5), 275–294. https://doi.org/10.1108/F-09-2012-0067

Lavy, S., Garcia, J. a., & Dixit, M. K. (2010). Establishment of KPIs for facility performance measurement: review of literature. *Facilities*, *28*(9/10), 440–464. https://doi.org/10.1108/02632771011057189

Law, E. L., Leicester, L. E., & Hassenzahl, M. (2009). Understanding , Scoping and Defining User eXperience : A Survey Approach. In *CHI 2009 Proceedings Special Interest Groups* (Vol. 6, pp. 719–728).

Lawal, A. O. (1996). The Role of Supervisors and Inspectors in improving Educational Students Language arts. *Journal of Studies in Education, Ilorin*, *1*(3), 14–16.

Lawler, E. E., & Porter, L. W. (1967). The Effect of Performance on Job Satisfaction. Industrial Relations. *Journal of Economy and Society*, *7(1)*, ., *7*(1), 20–28.

Lea, S. J., Stephenson, D., & Troy, J. (2003). Higher education students' attitudes to student-centred learning: beyond'educational bulimia'? *Studies in Higher Education*, *28*(3), 321–334.

Leaman, A., Stevenson, F., & Bordass, B. (2010). Building evaluation: practice and principles. *Building Research & Information*, *38*(5), 564–577.

Lebas, M. J. (1995). Performance measurement and performance management International. *Journal of Production Economics*, *41*(1–3), 23–35.

Lee, Y. S., & Guerin, D. A. (2009). Indoor and B uilt Quality Related to Occupant Satisfaction and Performance in LEED-certified Buildings. *Indoor and Built Environment*, *18*(4), 293–300. https://doi.org/10.1177/1420326X09105455

Lemasters, L. K. (1997). *A Synthesis of Studies Pertaining to Facilities, Student Achievement, and Student Behavior." Unpublished doctoral dissertation. (ED447687).* Virginia Polytechnic and State University.

Leung, M., & Fung, I. (2005). Enhancement of classroom facilities of primary schools

and its impact on learning behaviors of students. *Facilities*, *23*, 585–594. https://doi.org/10.1108/02632770510627561

Leveille, D. E. (2006). (). Accountability in Higher Education: A Public Agenda for Trust and Cultural Change. *Research & Occasional Paper Series. Center for Studies in Higher Education.*

Likoko, S., Mutsotso, S., & Nasongo, J. (2013). The Adequacy of Instructional Materials and Physical Facilities and their Effects on Quality of Teacher Preparation in Emerging Private Primary Teacher Training Colleges in Bungoma County , Kenya. *Interational Journal of Science and Research*, *2*(1).

Linus, O. (2001). Marketing strategy effectiveness in Nigerian banks. *Academy of Marketing Studies Journal*, *5*(1), 23–30.

Lopez del Puerto, C. (2009). *Relationship between the physical characteristics of higher educational facilities and student attitudes about their graduate school programs (Doctoral dissertation)*. Saint Louis University.

Luafutu-Simpson, P., Moltchanova, E., O'Halloran, D., Petelo, L., Schischka, J., & Uta'i, S. (2015). *Change Strategies to Enhance Pasifika Student Success at Canterbury Tertiary Institutions*.

Lumpkin, R. B., Ph, D., & Services, S. (2013). School Facility Condition and Academic Outcomes. *International Journal of Facility Management*, *4*(3).

Lyons, J. (2001). Do school facilities really impact a child's education? CEFPI Issuetrak.

Ma, X., & MacMillan, R. B. (1999). Influences of workplace conditions on teachers' job satisfaction. *The Journal of Educational Research*, *93*(1), 39–47.

Maassen, P., & Cloete, N. (2006). Global reform trends in higher education. *Transformation in Higher Education*, 7–33.

Mai, L. W. (2005). A comparative study between UK and US: The student satisfaction in higher education and its influential factors. *Journal of Marketing Management*, *21*(7–8), 859–878.

Malmqvist, T. (2008). Environmental rating methods: selecting indoor environmental quality (IEQ) aspects and indicators. *Building Research & Information*, *36*(5), 466–485.

Mansoor, M., Fida, S., Nasir, S., & Ahmad, Z. (2011). The impact of job stress on employee job satisfaction a study on telecommunication sector of Pakistan. *Journal of Business Studies Quarterly*, *2*(3), 50.

Mansor, A. A., Hasanordin, R., Hafiz, M., Rashid, A., Edura, W., & Rashid, W. (2012). Hierarchical Service Quality Model towards Student Satisfaction. *International Journal of Innovation Management and Technology*, *3*(6), 803–807. https://doi.org/10.7763/IJIMT.2012.V3.342

Maphoso, L. S. T., & Mahlo, D. (2014). Basic Facilities and Academic Achievement : A Comparative Study between Boarding and Non-boarding Schools. *Innternational Journal Eucation Science*, *6*(2), 309–315.

March, J. G. & Simon, H. A. (1958). *Organizations*. New York: Wiley.

Mark, E. (2013). Student satisfaction and the customer focus in higher education. *Journal of Higher Education Policy and Management*, *35*(1), 2–10.

Materu, P. N. (2007). *Higher education quality assurance in Sub-Saharan Africa: status, challenges, opportunities and promising practices (No. 124)*. World Bank.

Mathers, N., Fox, N, & Hunn, A. (2009). *Survey and questionnaires.* Nottingham: The NIHR RDS for East Midlands.

Mathew, I. A. (2016). Financial Allocation to Education: Trends, Issues and Forward in Nigeria. *Journal of plus Education, XIV*(1), 227–242.

Mbirithi, D. M., For, F., Degree, T. H. E., & Doctor, O. F. (2013). *Management challenges facing kenya " s public universities and implications for the quality of education*.

Mbugua, Z. K., Kibet, K., Muthaa, G. M., & Nkonke, G. R. (2012). Factors contributing to students' poor performance in mathematics at Kenya certificate of secondary education in Kenya: A case of Baringo County, Kenya. American International. *Journal of Contemporary Research*, *2*(6), 87–91.

McGregor, W. (2000). The future of workspace management. *Facilities*, *18*(3/4), 138–143.

McLaughlin, P., & Faulkner, J. (2012). Flexible spaces … what students expect from university facilities. *Journal of Facilities Management*, *10*, 140–149. https://doi.org/10.1108/14725961211218776

McLennan, P. (2004). Service management: a conceptual model for FM. In *Conference Proceeding of Future in Property and Facility Management II , a two-day international conference, University College London, London*.

Mehdipour, Y., & Zerehkafi, H. (2013). Student satisfaction at osmania university. *International Journal of Advancement in Research & Technology*, *2*(6), 233–240.

Meir, I. A., Garb, Y., & Jiao, D. (2009). Post-Occupancy Evaluation : An Inevitable

Step Toward Sustainability. *Advance Materials Research*, *3*, 189–220. https://doi.org/10.3763/aber.2009.0307

Melone, N. P. (1990). A theoretical assessment of the user-satisfaction construct in information systems research. *Management Science*, *36*(1), 76–91.

Mendell, M. J., & Heath, G. A. (2005).). Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature. *Indoor Air*, *15*(1), 27–52.

Mendell, M. J., Fisk, W. J., Kreiss, K., Levin, H., Alexander, D., Cain, W. S., & Wallingford, K. M. (2002). Improving the health of workers in indoor environments: priority research needs for a national occupational research agenda. *American Journal of Public Health*, *92*(9), 1430–1440.

Menzies, G. F., & Wherrett, J. R. (2005). Windows in the workplace: examining issues of environmental sustainability and occupant comfort in the selection of multi-glazed windows. . *Energy and Buildings*, *37*(6), 623–630.

Migin, M. W., Falahat, M., Shukri, M., Yajid, A., & Khatibi, A. (2015). Impacts of Institutional Characteristics on International Students ' Choice of Private Higher Education Institutions in Malaysia. *Higher Education Studies*, *5*(1). https://doi.org/10.5539/hes.v5n1p31

Mohammed, M. A., & Hassanain, M. (2010). Towards Improvement in Facilities Operation and Maintenance through Feedback to the Design Team.. *The Built & Human Environment Review*, *3*, 72–87.

Mohd Najib, N., U.Yusof, N. A., and ZainulAbidin, N. (2011). Student residential satisfaction in research universities. Journal of. *Facilities Management*, *9*(3), 200–212.

Mohd Suki, Norzah & Amin Chowdhury, I. (2015). Students' Attitude and Satisfaction Living in Sustainable On-Campus Hostels. *Malaysian Journal of Business and Economics*, *2*(1), 35–47.

Mohit, M. A., & Azim, M. (2012). Assessment of Residential Satisfaction with Public Housing in Hulhumale', Maldives. *Procedia - Social and Behavioral Sciences*, *50(July)*, ., *50*(July), 756–770.

Monfared, I. G. & Sharples, S. (2011). Occupants' perceptions and expectations of a green office building: a longitudinal case study. *Architectural Science Review*, *54*(4), 344–355.

Moohan, J. A. J. (1993). Strategic property management in colleges. In *paper*

presented at the seminar presented by Garland Associates, New Connaught Rooms, London.

Moore, G.T., Sugiyama, T. and O'Donnell, L. (2003). Children's physical environments rating scale Children. In *The Core of Society, Proceedings of the Australian Early Childhood Association Biennial Conference, July 2003, Canberra, Australia.*

Moore, M., & Finch, E. (2004). Facilities management in South East Asia. *Facilities, 22*, 259–270. https://doi.org/10.1108/02632770410555986

Morris Jr., R. (2003). *The relationships among school facility characteristics, student achievement, and job satisfaction levels among teachers. Unpublished doctoral dissertation, University of Georgia, Athens.*

Motala, S. (2001). Quality and indicators of quality in South African education: a critical appraisal. *International Journal of Educational Development*, *21*(1), 61–78.

Moti, G. U. (2010). The challenges of access to university education in Nigeria. *DSM Business Review*, *2*(2).

Mozaffarian, R. (2008). *Life-cycle indoor air quality comparisons between LEED certified and non-LEED certified buildings (Doctoral dissertation)*. University of Florida).

Muijs, D. (2004). *Doing quantitative research in education with SPSS.* London: Sage Publications.

Muktar, B. (2007). *The state of Nigerian public universities*. Retrieved from Available in www.gamji.com/article6000/NEWS7632.htm2007

Musa, M. F. Bin, & Baharum, Z. A. a. (2012). Corporate Real Estate (CRE): Public Institution of Higher Learning in Malaysia. *Procedia - Social and Behavioral Sciences*, *36*(June 2011), 273–279. https://doi.org/10.1016/j.sbspro.2012.03.030

Mushtaq, I., & Khan, S. N. (2012). Factors Affecting Students' Academic Performance. *Global Journal of Mangement and Business Research, 12*(9).

Mutalaq M. Al-Enezi. (2002). *A Study of the Relationship Between School Building Condition and Achievement of Twelth Grade Students in Kuwait Public High Schools*. Viginia Polytechnic Institute and state University.

Nair, C. S., Murdoch, N., & Mertova, P. (2011). Benchmarking the student experience : the offshore campus experience. *The TQM Journal*, *23*(6), 585–597. https://doi.org/10.1108/17542731111175211

Nastase, O. (2015). Higher Education Institution Rankings and their impact on decision making Olivia Iulia.

National Policy of Education. (2004). *Federal Ministry of Education. Lagos. NERDC. National Center for Education Statistics. (2000). NAEP summary data tables. Washington, DC:*

National Universities Commission. (2007). *Benchmark minimum academic standards for undergraduate programmes in nigerian universities*. Retrieved from https://nuc.edu.ng/project/academic-standards-department/

Navarro, M. M., Iglesias, M. P., and Torres, M. P. R. (2005). "A new management element for universities: satisfaction with the offered courses. *International Journal of Educational Management*, *19*(6), 505–526.

Nawawi, A. H., & Khalil, N. (2008). Post-occupancy evaluation correlated with building occupants ' satisfaction : An approach to performance evaluation of government and public buildings. *Journal of Building Appraisal*, *4*(2), 59–69. https://doi.org/10.1057/jba.2008.22

Naz, A., Khan, W., Daraz, U., Hussain, M., & Alam, H. (2013). Assessing the Consequential Role of Infrastructural Facilities in Academic Performance of Students in Pakistan. *International Journal Social Science & Education*, *3*(2), 463–475.

Nazali, M., Noor, M., & Pitt, M. (2008). Defining facilities management (fm) in the malaysian perspective. *Facilities Management*, *23*, 1–23.

Nazali, M., Noor, M., & Pitt, M. (2009). A critical review on innovation in facilities management service delivery coin a widespread theme that threads FM identity , summarised as the following : The definitions illustrate that the issues confronting FM are related to the. *Facilities*, *27*(5), 211–228. https://doi.org/10.1108/02632770910944943

Ndirangu, M., & Udoto, M. O. (2011). Quality of learning facilities and learning environment: Challenges for teaching and learning in Kenya's public universities. *Quality Assurance in Education*, *19*, 208–223. https://doi.org/10.1108/09684881111158036

Needs assessment of Nigerian public universities. (2012). *CNANU NEEDS Assessment Report Presentation to NEC*. Retrieved from www.fuotuoke.edu.ng/.../CNANU NEEDS Assessment Report Presenta...

Nenonen, S., Koskola, H., Kosonen, R. (2013). *Towards the user Experience-*

Integration of the measurable and non-measurable condition of indoor environment. Available at. Retrieved from www.halton.com/.../Towards_The_User_Experience_Integration_of_The_Measurable_And_Non_Measurable_Condition_of_Indoor_Environment

Nepal, B. (2016). Relationship among school“ s infrastructure facilities, learning environment and student”s outcome. *International Journal for Research in Social Science and Humanities Rsearch*, *2*(5), 44–57.

Nicholson, K. (2011). Quality assurance in higher education: A review of the literature.

Nnoduechi, C. I. (2013). Nontraditional Graduate Students’ Satisfaction With Their Transnational Educational Experience.

Nonaka, I., & Toyama, R. (2007). Strategic management as distributed practical wisdom (phronesis). *Industrial and Corporate Change*, *16*(3), 371–394.

Noonan, R & Wold, H. (1980). Pls Path Modelling with Latent Variables: Analysing School Survey Data Using Partial Least Squares-Part Ii 1,2’, Scandinavian. *Educational Research, Vol. 24, No. 1, Pp. ., 24*(1), 1–24.

Nutt, B. (2004). Infrastructure and facilities: forging a lignments between supply and demand. In *Conference Proceeding of Future in Proper ty and Facility Management II, a two-day international conference, London: University College London*. London.

Nwana, O. C. (2000). *Aberration in Nigerian education system. In The State of Education in Nigeria*. Abuja, Nigeria: UNESCO.

O’Neill, D. (2000). *The impact of school facilities on student achievement, behavior,attendance, and teacher turnover rate at selected Texas middle schools in Region XIII ESC. dissertation, ,*. Texas A&M University.

Oakland, & J.S. (1989). “TQM-the new way to manage” Total Quality Management, session chairman’s introduction.

Oblinger, D., & Lippincott, J. K. (2006). Learning spaces. Boulder, Colo,.: EDUCAUSE, c2006. 1 v.(various pagings): illustrations.

Odediran, S. J., Gbadegesin, J. T., & Babalola, M. O. (2015). Facilities Management Practice in the Nigerian Public Universities. *Journal of Facilities Management*, *13*(1), 5–26.

Odufowokan, B. A. (2011). Relationship between schools ` instructional plant and teachers ` task performance in Nigerian. *Problem of Education in the 20st*

Centuary, *34*, 88–97.

Oduma, C. A. (2014). Quality assurance in education: The role of ICT and quality control measures in tertiary institutions in Nigeria." AFRREV STECH. *An International Journal of Science and Technology*, *3*(4), 136–158.

OECD, U. /. (2008). *World enrollment of tertiary education in World Bank countries*. Retrieved from http://www.upo.unesco.org

Ogbeba, J. A., & Muluku, A. I. (2013). Influence Of Clean School Environment and Standard Class Room Size and Facilities on Students' Achievement in Biology in Gwagwalada Area Council of Fct-Abuja.

Ogbogu, C. (2011). Modes of funding Nigerian Universities and the implications on performance. *Journal of International Education Research (JIER)*, *7*(4), 75–82.

Ogundele, M. O., & Moronfoye, S. A. (2013). Infrastructural facilities and academic goals achievement of Kwara State tertiary institutions , Nigeria. *Journal of Vocational & Technology*, *10*(5), 87–100.

Ogunsote, O. O., & Prucnal-Ogunsote, B. (2013). Infrastructural and Interconnectivity Considerations in the Design of Modern Architecture Studios in Nigeria: Lessons from Leading Schools of Architecture. *AARCHES*, 51–69.

Okebukola, P. (2010). Fifty years of higher education in Nigeria : trends in quality assurance. In *International Conference on the Contributions of Nigerian Universities to the 50 th Independence Anniversary of Nigeria* (pp. 1–54).

Okebukola, P. A. (2013). An African perspective on rankings in higher education. *Rankings and Accountability in Higher Education*, 141.

Okolie, K. C. (2011). *Performance Evaluation of Buildings in Educational Institutions: A case of Universities in South-East Nigeria. A doctorate thesis in Construction Management*. Nelson Mandela Metropolitan Uni.

Okorie, N.C. and Uche, C. M. (2004). *Total Quality Management (TQM) in Education: Its Imperatives and key content*. Owerri: L.E.B. Fundamental Publishers of Educational Management.

Oladipo, A., Adeosun, O., & Oni, A. (2009). Quality assurance and sustainable university education in Nigeria.

Oliver, R. L., & DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research*, 495–507.

Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach. The. *Journal of Marketing*,

21–35.

Oliver, A. (1996). *The Metaphysics of Properties*. Mind 105(417).

Oliver, R. L. (1997). *Satisfaction: A Behavioural Perspective on the Consumer*. New York: McGraw Hill.

Oluwalola F. K, A. A. T. & A. A. Y. (2014). Tetiary Education Trust Fund Intervention Projects and Resource Utilizationin Universities: Planning for Improvement, *2*(2), 92–102.

Omogbadegun, Z. (2014). Pilotable framework for overcoming barriers in learning in Nigerian educational system. In *Inted 2014 Proceedings* (pp. 1879–1889).

Omotayo, D. M., Ihebereme, C. and Maduewesi, B. (2008). Management of Universal Basic Education Scheme (U.B.E) for Qualitative Education in Nigeria. *Education*, *129*(2), 308–314.

Onyesom, M., & Okolocha, C. C. (2013). Assessment of the Adequacy of Instructional Resources in Business Education Programmes Relative to NCCE Standards for Colleges of Education in Nigeria. *Journal of Education and Learning*, *2*(2), 165–178.

Organ, D. W. (1977). A reappraisal and reinterpretation of the satisfaction-causes-performance hypothesis. *Academy of Management Review*, *2(1)*, ., *2*(1), 46–53.

Oribabor, O. (2008). Impact of National Universities Commission (NUC) Accreditation Exercise on University Administrative Structure. *African Research Review*, *2*. https://doi.org/10.4314/afrrev.v2i3.41069

Ortiz, H. R. (2013). An Assessment of Perceptions of the Impact of Indoor Environmental Quality on Student Academic Performance at Texas Charter Schools. *American Clearinghouse on Educational Facilities*.

Osaikhiuwu, O. C. (2014). Institutional Factors Affecting the Academic Performance of Public Administration Students in a Nigerian University. *Public Administration Research*, *3*(2), 171–177. https://doi.org/10.5539/par.v3n2p171

Owino, E. O. (2013). *The influence of service quality and corporate image on customer satisfaction among university students in Kenya*. University of Nairobi.

Owoeye, J. S. (2011). School Facilities and Academic Achievement of Secondary School Agricultural Science in Ekiti State, Nigeria. *Asian Social Science*, *7*(7).

Owoeye, J. S. (2017). School Facilities and Academic Achievement of Secondary School Agricultural Science in Ekiti State , Nigeria, *7*(7), 64–74. https://doi.org/10.5539/ass.v7n7p64

Owuamanam, D. O. (2005). Threats to Academic Integrity in Nigerian Universities. In *Lead Paper Presented at the Conference of the National Association of Educational Researchers and Evaluators. Ado-Ekiti: University of Ado-Ekiti, Nigeria.*

Oyedeji, N. B. (2012). *Principles and practices of educational management*. Lagos: ARAS Press.

Pallant, J. (2011). *SPSS survival manual: a step by step guide to data analysis using SPSS.* (4th ed.). Australia: Allen & Unwin, Crows Nest.

Park, P. N. D. N., Driza, P. N., & Park, N. (2014). Occupant satisfaction in LEED-certified higher education buildings. *Smart and Sustainable Built Environment*, *3*(3), 223–236. https://doi.org/10.1108/SASBE-02-2014-0013

Paul, W. L., & Taylor, P. A. (2008). A comparison of occupant comfort and satisfaction between a green building and a conventional building. *Building and Environment*, *43*(11), 1858–1870.

Payant, R. P. & Lewis, B. T. (2007). *Facility Manager's Maintenance Handbook*. (M. Hill, Ed.). New York: NY.

Peng, D.X. & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management*, *30*(6), 467–480.

Pereira, M. A. C., and Da Silva, M. T. (2003). A key question for higher education: Who are the customers ? In *31st Annual Conference of the Production and Operations Management Society, POM-2003", Atlanta, GE*.

Perkmann, M., Neely, A., & Walsh, K. (2011). How should firms evaluate success in university–industry alliances? A performance measurement system. *R&D Management*, *41*(2), 202–216.

Petruzzellis, L., D'Uggento, A. M., & Romanazzi, S. (2006). Student satisfaction and quality of service in Italian universities. *Managing Service Quality*, *16*, 349–364. https://doi.org/10.1108/09604520610675694

Pfeffer, N., & Coote, A. (1991). Is quality good for you?: a critical review of quality assurance in welfare services (No. 5). Institute for Public Policy Research.

Pheng, L. S., & Rui, Z. (2016). *Service Quality for Facilities Management in Hospitals*. Singapore: Springer Singapore.

Pipho, C. (2000). The sting of high-stakes testing and accountability. *Phi Delta Kappan*, *81*(9).

Pitt, M., & Tucker, M. (2008). Performance measurement in facilities management: driving innovation? *Property Management*, *26*(4), 241–251. https://doi.org/10.1108/02637470810894885

Pitt, M., Tucker, M., Pitt, M., & Tucker, M. (2008). Performance measurement in facilities management : driving innovation ? *Property Management*, *26*(4), 241–254. https://doi.org/10.1108/02637470810894885

Planty, M. & DeVoe, J. F. (2005). *An examination of the condition of school facilities attended by 10th grade student in 2002. (NCES 2006-302)*. Washington, D.C.

Popli, S. (2005). Ensuring customer delight: A quality approach to excellence in management education. *Quality in Higher Education*, *11*(1), 17–24.

Porter, L. W. & Lawler, E. E. (1968). *Managerial Attitudes and Performance*. Homewood, III.:Irwin.

Prakash, P. (2005). *Effect of indoor environmental quality on occupant's perception of performance: a comparative study*. University of Florida.

Preiser, W. F., & Nasar, J. L. (2008). Assessing building performance: Its evolution from post-occupancy evaluation. *International Journal of Architectural Research*, *2*(1), 84–99.

Preiser, W. F., & Schramm, U. (2002). Intelligent office building performance evaluation. *Facilities*, *20*(7/8), 279–287.

Preiser, W. F. E. (1995). Post-occupancy evaluation: how to make buildings work better. *Facilities*, 19–28.

Price, I. (2004). Business critical FM",. In *Conference Proceeding of Future in Property and Facility Management II , a two-day international conference, University College London, London*.

Price, I., Matzdorf, F., Smith, L., & Agahi, H. (2003). The impact of facilities on student choice of university. *Facilities*, *21*(10), 212–222. https://doi.org/10.1108/02632770310493580

Pride, L. (2001). *Student housing and housing for young people, Metric Handbook: Planning and Design Data*. (D. (Ed. . in Adler, Ed.) (2nd ed.). Oxford: Architectural Press.

Pugh, S. D., Dietz, J., Wiley, J. W., & Brooks, S. M. (2002). Driving service effectiveness through employee-customer linkages. The Academy of Management Executive, 16(4), 73-84. *Review of Education*, *6*(3), 229–241.

Puntel, L. B. (2008). *Structure and Being: A Theoretical Framework for a Systematic*

Philosophy. White, A. (Trans.). University Park Pennsylvania: The Pennsylvania State University Press.

Quinn, A., Lemay, G., Larsen, P., & Johnson, D. M. (2009). Service quality in higher education. *Total Quality Management*, *20*(2), 139–152.

Qureshi, S. (1995). College accession research: New variables in an old equation. *Journal of Professional Services Marketing*, *12*(2), 163–70.

Rainer, R. K., & Harrison, A. W. (1993). Toward development of the end user computing construct in a university setting. *Decision Sciences*, *24*(6), 1187–1202.

Ramayah, T., Lee, J. W. C. & In, J. B. C. (2011). Network collaboration and performance in the tourism sector. *Service Business*, *5*, 411–42.

Randall, D., Fedor, D., & Longenecker, C. (1990). The behavioural expression of organisational commitment. *Journal of Vocational Behavior*, *36*, 210–224.

Rebaño-Edwards, S. (2007). Modelling perceptions of building quality—A neural network approach. *Building and Environment*, *42*(7), 2762–2777.

Reichert, S. (2009). Institutional diversity in European higher education. Tensions and challenges for policy makers and institutional leaders. *European University Association*.

Reporting, N. C. for L. (2012). *Laws of Kenya Universities ACT*. Kenya: National Council for Law Reporting with the Authority of the Attorney-General.

Richardson, J. T. E. (2005). Instruments for obtaining student feedback: a review of the literature. *Assessment & Evaluation in Higher Education*, *30*(4), 387–415.

Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). A Critical Look at the Use of PLS-SEM in MIS Quarterly. *MIS Quarterly*, *3 6*(1).

Ringle, C. M., Wende, S., & Will, S. (2005). *SmartPLS 2.0 beta. Hamburg: University of Hamburg*. Hamburg.

Roberts, L. W. (2009). Measuring school facility conditions: an illustration of the importance of purpose. *Journal of Educational Administration*, *47*(3), 368–380. https://doi.org/10.1108/09578230910955791

Robson, C. (2002). *Real World Research* (2nd Ed). Oxford: Blackwell publishers.

Rojas-Mendez, J. I., Vasquez-Parraga, A. Z., Kara, A. L. I., & Cerda-Urrutia, A. (2009). Determinants of student loyalty in higher education: A tested relationship approach in Latin America. *Latin American Business Review*, *10*(1), 21–39.

Rovegno, I. (2006). *3.5 Situated perspectives on learning. Handbook of physical*

education,262 .

Rowley, J. (1997). Beyond service quality dimensions in higher education and towards a service contract. 14. *Quality Assurance in Education*, *5*(1), 7.

Ruszala, J. (2008). *The condition of the High school Facilities in the Commonwealth of Virginia's Metropolitant school divisions and the relationship to teacher satisfaction. Unpublished doctoral dissertation*. The Geoge Washington University, Washington, D.C.

S. O, Oyenuga, O. E, Akinsola, P. O, Hussaini & A. O, F. (2012). Maintenance of University Facilities in Developing Country : Case study of Lagos State University Ojo Nigeria. *Medterranean Journal of Social Science*, *3*(11), 69–76. https://doi.org/10.5901/mjss.2012.v3n11p69

Sabitu, O., & Babatunde, G. (2012). School Types , Facilities and Academic Performance of Students in Senior Secondary Schools in Ondo State , Nigeria. *International Journal of Education Studies*, *5*(3), 44–48. https://doi.org/10.5539/ies.v5n3p44

Sadiq Sohail, M., & Shaikh, N. M. (2004). Quest for excellence in business education: a study of student impressions of service quality. *International Journal of Educational Management*, *18*(1), 58–65.

Sainaghi, R., Phillips, P., & Corti, V. (2013). Measuring hotel performance: Using a balanced scorecard perspectives' approach. *International Journal of Hospitality Management*, *34*, 150–159.

Saint, W., Hartnett, T. A., Strassner, E. (2003). Higher education in Nigeria: A status report. *Higher Education Policy*, *16*, 259–281.

Salleh, N.I., Yusof, N.B, Salleh, A.C., & Johari, N. D. (2011). Tenant Satisfaction in Public Housing and its Relationship with Rent Arrears: Majlis Bandaraya Ipoh, Perak, Malaysia, International. *Journal of Trade, Economics and Finance*, *2*(1), 10–23.

Sallis, E. (2014). *Total quality management in education*. Routledge.

Salmi, J. (2009). The challenge of establishing world-class universities. World Bank Publications.

Sangeeta S. and D.K. Banwe. (2004). Conceptualizing total quality management in higher education. *The TQM Magazine*, *16*(2), 145–159.

Sanoff, H. (2001). *School Building Assessment Methods*. Washington: National Clearinghouse for Educational Spaces.

Sapri, M., Baba, M. & Kamaruddin, N. (2013). Value chain model of integrated HEIs facilities performance. In *4th International Conference on Business and Economic Research (4th ICBER) Proceeding* (pp. 679–693).

Sapri, M., & Finch, E. & A. K. (2009). Factors That Influence Student ' s Level of Satisfaction With Regards To Higher Educational Facilities Services. *Malaysian Journal of Real Estate*, *4*(1), 34–51.

Sarel, L., John, A. G., & Manish, K. D. (2014). KPIs for facility ' s performance assessment , Part II : identification of variables and deriving expressions for core indicators. *Facilities*, *32*, 275–294. https://doi.org/10.1108/F-09-2012-0067

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students*. (N. M.-G. Hill, Ed.) (6th ed.). New York: Harlow, England.

Saunders, M., Lewis, P. & Thornhill, A. (2007). *Research Methods for Business Students*. London.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students fifth edition*.

Schneider, B., Bowen, D., Ehrhart, M., & Holcombel, K. (2000). *The Climate for Service. In N. Ashkanasy, C. Wilderom & M. Peterson (Eds.), Handbook of Organizational Culture and Climate*. Thousand Oaks: Sage Publications.

Schneider, M. (2002). *Do School Facilities Affect Academic Outcomes? National Clearinghouse for Educational Facilities*. Washington, D.C.

Schneider, M. (2003). Linking School Facility Conditions to Teacher Satisfaction and Success. *National Clearinghouse for Education Facilities*, (August), 1–4.

Schwab, D. P., & Cummings, L. L. (1970). Theories of performance and satisfaction: A review. *Industrial Relations*, *9*, 408–430.

Sciences, I.-I. of E. (2006). *Post-Secondary Education Facilities Inventory and classification manual edition* (6th ed.). Washington: National Centre for Education Statistics.

Sedaghatnia, S., Lamit, H., & Saifuddin, A. (2015). Experience of Social Inclusion among Students in University Campuses of Malaysia. *Procedia - Social and Behavioral Sciences*, *170*, 89–98. https://doi.org/10.1016/j.sbspro.2015.01.018

Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). New Jersey: John Wiley and Sons.

Sekaran, U. (2003). *Research methods for business: A skill building approach* (4th ed.). New Jersey: John Wiley and Sons.

Seymour, D. T. (1992). *Causing quality in higher education*. Macmillan Publishing Company, 100 Front St., Riverside, NJ 08075-7500.

Shah, M., and Nair, C. . (2011). Trends in the quality of the student experience: an international perspective based on studies in three universities. In *Proceedings of the IETEC 2011 Conference, Kuala Lumpur, Malaysia*.

Shah, M., Sid Nair, C. and Bennett, L. (2011). Factors influencing student choice to study at private higher education institutions. *QualityAssuarence in Education, 21*(4), 402–416.

Shah, R. and Goldstein, S. M. (2006). Use of structural equation modeling in operations management research: Looking back and forward. *Journal of Operations Management*, *24*(2), 148–169.

Shaik, M. N., & Abdul-Kader, W. (2014). Comprehensive performance measurement and causal-effect decision making model for reverse logistics enterprise. *Computers & Industrial Engineering*, *68*, 87–103.

Shuang, G. W., Kamaruzzaman, S. N., & Zulkifli, N. (2014). Occupants' perception on indoor performance of historical museum: a case study of National Museum and Perak Museum, Malaysia. In *2nd International Conference on Research in Science, Engineering and Technology, Dubai (UAE).*

Sid Nair, C., Murdoch, N., & Mertova, P. (2011). Benchmarking the student experience: the offshore campus experience. *The TQM Journal*, *23*(6), 585–597.

Singh, A. K., & Singh, M. (2014). Role of infrastructure in teacher retention: a case study of kendriya vidyalaya aizawl. *International Journal of Organizational Behaviour & Management Perspectives*, *3*(1), 791.

Singh A, Syal M, Grady SC, K. S. (2010). Effects of green buildings on employee health and pro ductivity. *American Journal of Public Health*.

Sirgy, M. J. (1984). A social cognition model of consumer satisfaction/dissatisfaction: An experiment. *Psychology and Marketing*, *1*, 24–77.

Sirvanci, M. B. (2004). TQM implementation critical issues for TQM implementation in higher education.". *The TQM Magazine*, *16*(6), 382–386.

Smayling, M., & Miller, H. (2012). Job satisfaction and job performance at the internship level. *Journal of Leadership, Accountability and Ethics*, *9*(1), 27.

Smith, D., & Langfield-Smith, K. (2004). Structural equation modeling in management accounting research: Critical analysis and opportunities. *Journal of Accounting Literature*, *23*, 49–86.

Smith, J. W., & Pijanowski, B. C. (2014). Human and policy dimensions of soundscape ecology. *Global Environmental Change*, *28*, 63–74.

Spedding, A. and Holmes, R. (1994). *Facilities management'', in Spedding, CIOB Book of Facilities Management, The Chartered Institute of Building*. London: Longman Scientific & Technical, London.

Stephens, P. (2014). Undergraduate Student Satisfaction: Investigating the Measurement, Dimensionality, and Nature of the Construct Using the Rasch Model.

Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of Royal Statistical Society.Series B (Methodological)*, *36*, 111–147.

Stufflebeam, D. L. (1994). Empowerment evaluation, objectivist evaluation, and evaluation standards: Where the future of evaluation should not go and where it needs to go. *Evaluation Practice*, *15*(3), 321–338.

Subair, S. T. (2008). *Infrastructure, welfare services and students' perceived motivation to learning in universities in South-West Nigeria.Unpublished Ph.D Thesis*. University of Lagos.

Sulaiman, M. A., Yusoff, W. Z. W., & Kamarudin, W. N. W. (2013). Evaluation of Indoor Environmental Quality (IEQ) on dense Academic Building : Case Studies Universiti Tun. *International Journal of Scientific and Research Publications*, *3*(1), 1–5.

Swan, J. E., & Combs, L. J. (1976). Product performance and consumer satisfaction: A new concept. *Journal of Marketing*, ., 25–33.

Sweeney, J.C., and Ingram, D. (2001). A comparison of traditional and web-based tutorials in marketing education: An exploratory study. *Marketing Education*, *23*(1), 55–62.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*. (S. Hartman & T. Felser, Eds.) (5th Editio). carlifornia, USA: Pearson.

Tan, K. A. Y. C., & Kek, S. E. I. W. (2004). Service Quality in Higher Education Using an Enhanced SERVQUAL Approach. *Quality in Higher Education*, *10*(1). https://doi.org/10.1080/1353832242000195032

Tapp, A., Hicks, K., & Stone, M. (2004). Direct and database marketing and customer relationship management in recruiting students for higher education. *International Journal of Nonprofit and Voluntary Sector Marketing*, *9*(4), 335–345.

Tashakkori, A. and Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches Sage*. California: PublicationsThousand Oaks,.

Teddlie, C., & Yu, F. (2007). Journal of Mixed Methods Research. https://doi.org/10.1177/2345678906292430

Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, *43*(2), 172–194.

Telford, R., & Masson, R. (2005). The congruence of quality values in higher education. *Quality Assurance in Education*, *13*(2), 107–119.

Temple, P. (2008a). Learning spaces in higher education: an under-researched topic. *London Review of Education*, *6*(3), 229–241.

Temple, P. (2008b). Learning spaces in higher education: an under-researched topic", London.

Tesser, A., & Rosen, S. (1975). The reluctance to transmit bad news. *Advances in Experimental Social Psychology*, *8*, 193–232.

Then, D. (1999). An integrated resource management view of facilities management. *Facilities*, *17*(12/13), 462–9.

Thomas, E. H., & Galambos, N. (2004). What satisfies students? Mining student-opinion data with regression and decision-tree analysis. *Research in Higher Education*, *45*(3), 251–269.

Thorndike, E. L. (1898). Animal intelligence: An experimental study of the associative processes in animals. Psychological Monographs. *General and Applied*, *2*(4), i-109.

Times Higher Education. (2016). Best universities in Africa 2017. Retrieved July 9, 2017, from https://www.timeshighereducation.com/student/best-universities/best-universities-africa

Todd, S., Steele, A., Douglas, C., & Douglas, M. (2002). Investigation and assessment of attitudes to and perceptions of the built environments in NHS trust hospitals. *Structural Survey*, *20*(5), 182–188.

Tomico, O., Hailahti, H., & Lloveras, J. (2006). Augmented subjective experiences: a non-intrusive way of introducing smart textiles into everyday life.

Tompkins, J. A., White, J. A., Bozer, Y. A., & Tanchoco, J. M. A. (2010). *Facilities planning*. John Wiley & Sons.

Tough, A. (1982). Some Major Reasons for Learning. *(ERIC Document Reproduction Service No. ED033251)*.

Toyin Sawyerr, P., & Yusof, N. A. (2013). Student satisfaction with hostel facilities in Nigerian polytechnics. *Journal of Facilities Management*, *11*(4), 306–322.

Tremblay, K., Lalancette, D., & Roseveare, D. (2012). *Assessment of higher education learning outcomes. Feasibility study report*, *1*.

Triandis, H. C. (1959). A critique and experimental design for the study of the relationship between productivity and job satisfaction. *Psychological Bulletin*, *56*(4), 309.

Tribus, M. (1993). Quality management in education. *The Journal for Quality and Participation*, *16*(1), 12.

Trkman, P. (2010). The critical success factors of business process management. *International Journal of Information Management*, *30*(2), 125–134.

Trow, M. (2007). *Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In International handbook of higher education*. Springer Netherlands.

Tsai, K. C., Huang, P. B., & Yang, C. C. (2017). *The Evaluation of Service Quality for Higher Education in Taiwan by Using Importance-Satisfaction Model. In Theory and Practice of Quality and Reliability Engineering in Asia Industry*. Springer.

Tse, D. K., & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of Marketing Research*, *25*, 204–212.

Tucker, M., Pitt, M., Tucker, M., & Pitt, M. (2011). Customer performance measurement in facilities management A strategic approach. https://doi.org/10.1108/17410400910965698

Uka, A. (2014). Student satisfaction as an indicator of quality in higher education. *Journal of Educational and Instructional Studies in the World*, *4*(3), 6–10.

Uko, S. E. (2015). principalship and effective management of facilities in. *International Journal of Academic Research I and Reflection*, *3*(1), 64–76.

Uline, C. L., Tschannen-Moran, M., & DeVere Wolsey, T. (2009). The walls still speak: The stories occupants tell. *Journal of Educational Administration*, *47*(3), 400–426.

Uline, C., Tschannen-moran, M., & College, T. (2008). The walls speak: the interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration*, *46*(1), 55–73. https://doi.org/10.1108/09578230810849817

UNESCO. (2000). *World Education Report 2000*. Paris.

UNESCO. (2006). *News Letter. Education Section, 5.* Retrieved from http://www.upo.unesco.org

Uvah, I. I. (2005). Quality assurance and institutional stability in the Nigerian university system. *Nig. J Ournal of Educational Administration and Planning, 5*(2), 14–22.

Valins, M.S. and Salter, D. (1996). *Future care: New Directions in Planning Health and Care Environments, Blackwell Science, Oxford*.

Vandiver, B. (2011). The Impact of School Facilities of the Learning Environment, (January), 1–174.

Varcoe, B. J. (1996). Facilities performance. *Facilities, 14*, 46–51.

Vavra, T. G. (1997). *Improving your measurement of customer satisfaction: a guide to creating, conducting, analysing, and reporting customer satisfaction measurement programs*. American Society for Qualit.

Veitch, J. A. & McColl, S. L. (2001). A critical examination of perceptual and cognitive effectsattributed to full-spectrum fluorescent lighting. *Ergonomics 44(3), 44*(3), 255–279.

Veltri, S., Banning, J. H., & Davis, T. . (2006). The community college classroom environment: student perceptions. *College Student Journal*, *40*(3), 517–527.

Vidalakis, C., Sun, M., & Papa, A. (2013). The quality and value of higher education facilities: a comparative study. *Facilities*, *31*, 489–504. https://doi.org/10.1108/F-10-2011-0087

Vlăsceanu, L., Grünberg, L., & Pârlea, D. (2004). Quality assurance and accreditation: A glossary of basic terms and definitions. Bucharest: Unesco-Cepes.

Vroom, V. H. (1964). *Work and Motivation*. New York: Wiley.

Wan Hamdan, W. S. Z., Hamid, Md. Y., Mohd Radzuan, N. A. & Shah, A. A. (2016). Study on Space Audit Assessment Criteria for Public Higher Education Institution in Malaysia: Space Capacity Assessment. In *MATEC Web of Conferences 66, 00078*. https://doi.org/DOI: 10.1051/matecconf/20166

Wang, Z. & Lim, B. T. H. (2012). Managing changes in construction: a conceptual framework. In *6th International Conference and Workshop on the Built Environment in Developing Countries, 4-5 December 2012, Adelaide, Australia*.

Weller, L. D. (1995). School restructuring and downsizing: using TQM to promote cost-effectiveness. *The TQM Magazine, 7*(6), 11–16.

Wes, M. and Danny, S. T. (1999). Facilities Management and the Business of Space, Arnold, London and New York, NY, co-published in North, Central, and South America by John Wiley & Sons.

Westbrook, R. A., & Reilly, M. D. (1983). Value-percept disparity: An alternative to the disconfirmation of expectations theory of consumer satisfaction. *Advances in Consumer Research*, *10*(1), 256–261.

Wiers-Jensen, J., Stensaker, B., and Gogaard, J. B. . (2002). Student satisfaction: towards an empirical deconstruction of the concept. *Quality in Higher Education, 8*(2), 183–195.

Wifi, M. (2017). Occupants' quality of life experience with sustainable work environments: using a mixed-methods approach to develop a humane and sustainable framework for assessing the indoor environmental quality in office buildings.

Wilson, G., & Randall, M. (2012). The implementation and evaluation of a new learning space: a pilot study. *Research in Learning Technology, 20*.

Winch, P. (1958). *The Idea of a Social Science*. London: Routledge and Kegan Paul.

Woolner, P., Hall, E., Higgins, S., Mccaughey, C., & Wall, K. (2007). A sound foundation ? What we know about the impact of environments on learning and the implications for Building Schools for the Future, *33*(1), 47–70. https://doi.org/10.1080/03054980601094693

Working, N., Facilities, P., Cyros, K., & Korb, R. (2006). Postsecondary Education Facilities Inventory and Classification Manual (FICM): 2006 Edition.

Wright, C., & O'Neill, M. (2002). Service quality evaluation in the higher education sector: An empirical investigation of students' perceptions. *Higher Education Research & Development*, *21*(1), 23–39.

Wu, H., Tennyson, R.D., and Hsia, T. (2010). A study of student satisfa ction in a blended E-learning system environment. *Computers and Education*, *55*, 155–164.

Wyon, D.P., Bruun, N.O., Olesen, S. &, & Fanger, P. O. (1973). The effects of ambient temperature swings on comfort, performance and behaviour. *Arch. Sci. Physiol*, *27A*, 441–458.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed). Thousand Oaks, CA: Sage.

Yusoff, W. Z. W., & Wen, W. R. (2014). Analysis of the International Sustainable

Building Rating Systems (SBRSs) for Sustainable Development with Special Focused on Green Building Index (GBI) Malaysia. *Journal of Environmental Conservation Research*, *2*(1), 11. https://doi.org/10.12966/jecr.02.02.2014

Zahari, W., Yusoff, W., & Sulaiman, M. A. (2014). Sustainable Campus : Indoor Environmental Quality (IEQ) Performance Measurement for Malaysian Public Universities. *European Journal of Sustainable Development*, *3*(4), 323–338. https://doi.org/10.14207/ejsd.2014.v3n4p323

Zainal, N. R., Kaur, G., Ahmad, N. A., & Khalili, J. M. (2012). Housing conditions and quality of life of the urban poor in Malaysia. *Procedia-Social and Behavioral Sciences*, *50*, 827–838.

Zakaria, S., Fadzilah, W., & Yusoff, W. (2011). Teaching Management and Its Contribution Student Satisfaction in Private Higher Institutions of Learning. *International Journal of Trade, Economic and Finance*, *2*(5).

Zannin, P. H. T., & Zwirtes, D. P. Z. (2009). Evaluation of the acoustic performance of classrooms in public schools. *Applied Acoustics*, *70*(4), 626–635.

Zeichner, K. (2007). Accumulating knowledge across self-studies in teacher education. *Journal of Teacher Education*, *58*(1), 36–46.

Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). Delivering quality service: Balancing customer perceptions and expectations. Simon and Schuster.

Zeleza, P. T. (2005). Transnational education and African universities. *Journal of Higher Education in Africa/Revue de L'enseignement Supérieur En Afrique*, 1–28.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business Research Methods* (8th ed.). Canada: South-Western: Cengage Learning.

Zikmund, W. G. (2000). *Business Research Methods* (6th ed.). USA: Harcourt.

Zimring, C. Rashidi, M. and Kampschroer, K. (2005). Space Performance Evaluation (SPE)) National Institute of Building Sciences (NIBS). Washington, D.C. [Online]. Available fro Preiser, W. F. (1995). Post-Occupancy Evaluation; How to Make Buildings Work Better. *Facilities. 13 (11);* ., *13*(11), 19–28. Retrieved from www.wbdg.org/design/fpe.php